INJURY EXPERIENCE IN QUARRYING, 1957

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* * * * * * * * * * information circular 7975

March 3, 1849

UNITED STATES DEPARTMENT OF THE INTERIOR
Fred A. Seaton, Secretary

BUREAU OF MINES
Marling J. Ankeny, Director

This publication has been cataloged as follows:

U.S. *Bureau of Mines.*
Injury experience in the quarrying industry. 1911–
Washington, U.S. Govt. Print. Off.

v. 24–26 cm. annual.

Vols. for 1911–22 issued as the Bureau's Technical paper (TN1.U6); 1923–53 as its Bulletin (TN23.U4); 1954– as its Information circular.

Publication suspended 1943–51; 1952 includes data for 1942–51.

Title varies: 1911–42, Quarry accidents in the United States.

Other slight variations in title.

1. Quarries and quarrying—Accidents. (Series: U.S. Bureau of Mines. Technical paper. Series: U.S. Bureau of Mines. Bulletin. Series: U.S. Bureau of Mines. Information circular)

TN295.U4 622.8 13–35364 rev 3*
—— —— 2d set. HD7269.S85U3

Library of Congress

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington 25, D.C. - Price 40 cents

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INJURY EXPERIENCE IN QUARRYING, 1957[1]

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Introduction and Summary

THE INJURY data and experience at quarries and related plants of the United States are presented in this publication under the following general sections:

(*A*) *General injury experience:*

Tables 1–3: Current data on number of injuries, injury-frequency rates, location, accident agency, degree of injury, and related employment data.

(*B*) *Injury experience at different kinds of quarries:*

Tables 4–5: Current data on number of injuries, injury-frequency rates, location, accident agency, degree of injury, and related employment data.

(*C*) *Injury experience by States:*

Tables 6–20: Current data on the number of injuries, injury-frequency rates, accident agency, degree of injury, and related employment data.

(*D*) *Selected injury data:*

Tables 21–30: Current data on various selected factors of operating conditions at different kinds of quarries, including employment size-groups, length of shifts, comparative severity of injuries, and injury data and related employment experience at dimension-stone and nondimension-stone quarries and at underground quarries.

(*E*) *Historical injury experience:*

Table 31: Injury and employment data on the quarrying industry for 1911 through 1957.

Statistical data on injuries and related employment in the quarrying industries have been collected annually from the operating companies since 1911. Reporting to the Bureau of Mines is voluntary; there is no Federal law compelling operators of quarries and related plants to supply such data. Data presented herein may not be complete for the entire industry. They are however, believed to be representative of the hazards common to all quarry and related workers. Moreover, the figures are comparable as between States—a significant fact in view of the lack of uniformity among the States with regard to the classes of injuries covered by State reports and other factors that tend to make it impracticable or impossible when using State records to compare injury experience of one State with that of another or with the industry as a whole.

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The quarries covered in this publication are classed according to the kind of stone produced: Cement rock (including limestone and other stone used in making cement), granite, limestone, marble, sandstone, slate, traprock, and unclassified miscellaneous stone. The data also cover crushing and screening, rock dressing, and the manufacture of cement and lime, insofar as these operations are conducted by the quarrying companies.

ACKNOWLEDGMENTS

The Bureau of Mines gratefully acknowledges the cooperation of quarry operators throughout the Nation, whose voluntary response to the Bureau's request for information on the injuries and related employment data form the basis for tables in this publication.

GENERAL INJURY EXPERIENCE

Injury experience in the quarrying industries in 1957 was less favorable than in 1956. Three more fatalities were reported, and nonfatal injuries increased to 4,210 in 1957 from 3,754 in 1956 (12 percent), which resulted in an increase of 9 percent in the combined (fatal and nonfatal) injury-frequency rate of 23.25 from the 21.34 reported for 1956.

The number of active operations increased to 2,903 from 2,248 the preceding year. Increases also were recorded in the number of men employed and in man-hours worked.

Operators are not requested to submit data on the duration of disability resulting from an injury; therefore, the number of days lost in proportion to the man-hours worked (severity rate) cannot be shown. An estimate of the average severity rate can be made from the records of participants in the National Safety Competition—an annual safety contest conducted by the Bureau of Mines. Based upon these records, the severity or time-loss rate for 1957 is estimated as 3,152.49 per million man-hours of exposure to the hazards of quarrying. This estimate is arrived at by assigning the average extent of disability by degree of injury reported by participants in the National Safety Competition to the injuries reported in the Bureau's annual quarry canvass. Thus, 6,000 days were charged for each fatality and each permanent total disability, 865 days for each permanent partial disability, and 26 days for each temporary total disability reported to the Bureau of Mines in 1957. The total days of disability for all injuries (fatal and nonfatal) was 578,146 in 1957, as compared with 626,126 in 1956—a decrease of 8 percent.

Ninety-three percent of the employees working in the quarrying industry in 1957 was at quarries and associated plants that had no fatal injuries. Of the 2,903 active operations 50 reported 1 or more fatalities. The quarries and plants that reported fatal injuries employed an average of 124 men, as compared with an average of 27 in plants without fatalities. The fatal injury-frequency rate for the 50 operations that reported fatalities was 3.63 per million man-hours of employment. The fatality rate for the entire industry was 0.29. Plants that reported no fatalities had 4,039 nonfatal injuries and an injury-frequency rate of 23.93 per million man-hours. Plants reporting fatal injuries reported 171 nonfatal injuries and a nonfatal injury-frequency rate of 11.71 per million man-hours of worktime.

GENERAL INJURY DATA

TABLE 1.—*Salient statistics on injuries, injury rates, and employment in the quarrying industry of the United States, 1953–57*

	Excluding officeworkers				
	1953	1954	1955	1956	1957
Injuries:					
Fatal	43	34	53	50	53
Nonfatal:					
Permanent total	8	7	7	8	5
Permanent partial	139	136	165	135	144
Temporary total	4, 303	3, 691	3, 639	3, 611	4, 061
Total nonfatal	4, 450	3, 834	3, 811	3, 754	4, 210
Grand total	4, 493	3, 868	3, 864	3, 804	4, 263
Injury frequency rate per million man-hours:					
Fatal	0. 23	0. 19	0. 30	0. 28	0. 29
Nonfatal	23. 45	21. 81	21. 68	21. 06	22. 96
Total	23. 68	22. 00	21. 98	21. 34	23. 25
Active quarries	2, 291	2, 252	2, 027	2, 248	2, 903
Men employed daily	83, 641	78, 910	78, 238	80, 093	84, 126
Average days active	278	273	274	272	266
Man-days worked	23, 248, 371	21, 505, 759	21, 470, 380	21, 776, 491	22, 409, 773
Man-hours worked	189, 776, 589	175, 817, 150	175, 775, 452	178, 280, 989	183, 393, 721
Average hours per man-day	8. 16	8. 18	8. 19	8. 19	8. 18
Average hours per man-year	2, 269	2, 228	2, 247	2, 226	2, 180

	Including officeworkers				
	1953	1954	1955	1956	1957
Injuries:					
Fatal	43	34	54	50	53
Nonfatal:					
Permanent total	8	7	7	8	5
Permanent partial	139	136	165	136	145
Temporary total	4, 303	3, 691	3, 647	3, 614	4, 074
Total nonfatal	4, 450	3, 834	3, 819	3, 758	4, 224
Grand total	4, 493	3, 868	3, 873	3, 808	4, 277
Injury frequency rate per million man-hours:					
Fatal	0. 23	0. 19	0. 29	0. 26	0. 27
Nonfatal	23. 45	21. 81	20. 56	19. 89	21. 72
Total	23. 68	22. 00	20. 85	20. 15	22. 00
Active quarries	2, 291	2, 252	2, 027	2, 248	2, 903
Men employed daily	83, 641	78, 910	82, 935	85, 033	89, 318
Average days active	278	273	274	272	266
Man-days worked	23, 248, 371	21, 505, 759	22, 707, 165	23, 109, 364	23, 795, 564
Man-hours worked	189, 776, 589	175, 817, 150	185, 748, 416	188, 940, 544	194, 479, 337
Average hours per man-day	8. 16	8. 18	8. 18	8. 18	8. 17
Average hours per man-year	2, 269	2, 228	2, 240	2, 222	2, 177

TABLE 2.—*Injury and employment data on all stone operations with and without fatalities, 1957*

	Excluding officeworkers			Including officeworkers		
	Plants without fatalities	Plants with fatal injuries	All plants	Plants without fatalities	Plants with fatal injuries	All plants
Active operations	2,853	50	2,903	2,853	50	2,903
Average number of men	77.903	6,223	84,126	82,808	6,510	89,318
Proportion of total men (percent)	92.6	7.4	100.0	92.7	7.3	100.0
Number of men per plant	27	124	29	29	130	31
Man-days worked	20,638,252	1,771,521	22,409,773	21,949,010	1,846,554	23,795,564
Average days active	265	285	266	265	284	266
Man-hours worked	168,792,612	14,601,109	183,393,721	179,290.749	15,188,588	194,479,337
Average hours per man per year	2,167	2,346	2,180	2,165	2,333	2,177
Fatal injuries		53	53		53	53
Nonfatal injuries	4,039	171	4,210	4,053	171	4,224
Fatal rate per million man-hours		3.63	.29		3.49	.27
Nonfatal rate per million man-hours	23.93	11.71	22.96	22.61	11.26	21.72

TABLE 3.—*Number and percentage distribution of injuries at all stone quarries in the United States, by agency, work location, and degree of injury, 1957*

Agency and location	Fatal	Nonfatal					Percent of—	
		Permanent total [1]	Permanent partial [2]	Temporary total [3]	Total nonfatal	All injuries	Grand total	Group total
OPEN QUARRY								
Quarry:								
Falls or slides of rock or overburden	5	1	2	98	101	106	2.49	4.96
Handling materials:								
Handling rock at face	2		5	239	244	246	5.77	11.52
Handling other materials	2		4	115	119	121	2.84	5.66
Handtools			1	125	126	126	2.96	5.90
Explosives:								
Transportation				3	3	3	.07	.14
Charging				2	2	2	.05	.09
Drilling into old holes			1		1	1	.02	.05
Striking in loose rock				1	1	1	.02	.05
Thawing								
Caps, detonators, etc			1	1	2	2	.05	.09
Unguarded shots				2	2	2	.05	.09
Returned too soon								
Premature shots			1		1	1	.02	.05
Delayed blasts				3	3	3	.07	.14
Miscellaneous			1	33	34	34	.80	1.59
Haulage:								
Hand and animal				9	9	9	.21	.42
Quarry cars and motors				13	13	13	.30	.61
Quarry trucks, tractors, etc	1	1	7	144	152	153	3.59	7.16
Railway cars and locomotives	2		2	19	21	23	.54	1.08
Falls of persons:								
Falling into quarry from surface, benches or face	4		1	44	45	49	1.15	2.29
Falling from hoists, derricks, ladders, etc	1		2	56	58	59	1.38	2.76
Miscellaneous			2	154	156	156	3.66	7.30
Falling objects			2	77	79	79	1.85	3.70
Flying objects:								
From sledging			5	61	66	66	1.55	3.09
Others		1	1	106	108	108	2.53	5.06
Electricity:								
Direct contact with trolley wires				1	1	1	.02	.05
Bar or tool striking trolley wire								
Contact with motor				4	4	4	.09	.19
Others				10	10	10	.23	.47
Drilling and channeling (by machine or hand)			9	133	142	142	3.33	6.65

See footnotes at end of table, p. 8.

TABLE 3.—*Number and percentage distribution of injuries at all stone quarries in the United States, by agency, work location, and degree of injury, 1957*—Continued

Agency and location	Fatal	Nonfatal					Percent of—	
		Permanent total [1]	Permanent partial [2]	Temporary total [3]	Total nonfatal	All injuries	Grand total	Group total
OPEN QUARRY—Continued								
Quarry—Continued								
Machinery:								
Hoisting cables and attachments			1	50	51	51	1. 20	2. 39
Guys, cranes, derricks, and attachments	1		3	27	30	31	. 73	1. 45
Pumps and hoisting engines			1	2	3	3	. 07	. 14
Power shovels	2		5	64	69	71	1. 67	3. 32
Other machinery	2		7	151	158	160	3. 75	7. 49
Stepping on nail or sharp object				27	27	27	. 63	1. 26
Boiler and air-tank explosions								
Burns from flames and hot or caustic materials		1	3	38	42	42	. 99	1. 97
Other causes	1	1	4	225	230	231	5. 42	10. 81
Total in quarry	23	5	71	2, 037	2, 113	2, 136	50. 11	100. 00
Surface:								
Quarry or mine cars and motors				10	10	10	. 23	1. 59
Railway cars and locomotives			2	21	23	23	. 54	3. 65
Run or fall of stone in or from bins	2			16	16	18	. 42	2. 86
Falls of persons			1	89	90	90	2. 11	14. 29
Stepping on nail or sharp object				10	10	10	. 23	1. 59
Handtools	1		1	72	73	74	1. 74	11. 75
Electricity				8	8	8	. 19	1. 27
Machinery	2		7	82	89	91	2. 13	14. 44
Handling materials			4	136	140	140	3. 28	22. 22
Other causes	1		2	163	165	166	3. 89	26. 35
Total surface at quarry	6		17	607	624	630	14. 78	100. 00
Total open quarry	29	5	88	2, 644	2, 737	2, 766	64. 88	
UNDERGROUND QUARRY								
Underground:								
Fall of rock from roof or wall	1		1	14	15	16	. 38	12. 31
Handling rock while loading at working face or chute				17	17	17	. 40	13. 08
Handtools				7	7	7	. 16	5. 38
Explosives				3	3	3	. 07	2. 31
Haulage	1			5	5	6	. 14	4. 62
Falling down chute, winze, raise or stope			1	7	8	8	. 19	6. 15
Run of rock from chute or pocket				2	2	2	. 05	1. 54
Drilling				25	25	25	. 59	19. 23
Electricity				1	1	1	. 02	. 77
Machinery (other than locomotives or drills)			1	6	7	7	. 16	5. 38
Mine fires								
Suffocation from natural gases								
Inrush of water								
Stepping on nail or sharp object				2	2	2	. 05	1. 54
Handling materials (other than rock)				12	12	12	. 28	9. 23
Other causes				24	24	24	. 56	18. 46
Total underground	2		3	125	128	130	3. 05	100. 00

See footnotes at end of table, p. 8.

TABLE 3.—*Number and percentage distribution of injuries at all stone quarries in the United States, by agency, work location, and degree of injury, 1957*—Continued

Agency and location	Fatal	Nonfatal					Percent of—	
		Permanent total [1]	Permanent partial [2]	Temporary total [3]	Total nonfatal	All injuries	Grand total	Group total
UNDERGROUND QUARRY—Continued								
Shaft and slope:								
Falling down shaft or slope	----	------	------	3	3	3	0.07	37.50
Objects falling down shaft or slope	----	------	------	2	2	2	.05	25.00
Breaking of cables	----	------	------	------	------	------	------	------
Overwinding	----	------	------	------	------	------	------	------
Cage, skip, or bucket	----	------	------	------	------	------	------	------
Other causes	----	------	------	3	3	3	.07	37.50
Total shaft or slope	----	------	------	8	8	8	.19	100.00
Surface:								
Quarry or mine cars and motors	----	------	------	1	1	1	.02	3.13
Railway cars and locomotives	----	------	------	2	2	2	.05	6.25
Run or fall of stone in or from bins	----	------	------	------	------	------	------	------
Falls of persons	----	------	------	4	4	4	.09	12.50
Stepping on nail or sharp object	----	------	------	------	------	------	------	------
Handtools	----	------	------	4	4	4	.09	12.50
Electricity	----	------	------	1	1	1	.02	3.13
Machinery	----	------	------	4	4	4	.09	12.50
Handling materials	----	------	------	5	5	5	.12	15.63
Other causes	----	------	------	11	11	11	.26	34.38
Total surface underground mine	----	------	------	32	32	32	.75	100.00
Total underground mine	2	------	3	165	168	170	3.99	------
PROCESSING WORKS								
Crusher and mill:								
Haulage:								
Hand and animal	----	------	------	6	6	6	.14	.60
Quarry or mine cars and motors	----	------	------	4	4	4	.09	.40
Quarry trucks, tractors, etc	2	------	1	30	31	33	.77	3.28
Railway cars and locomotives	1	------	3	13	16	17	.40	1.69
Machinery:								
Hoisting cables and attachments	----	------	2	4	6	6	.14	.60
Guys, cranes, derricks and attachments	----	------	1	9	10	10	.23	1.00
Pumps and hoisting engines	----	------	------	1	1	1	.02	.10
Crushers	3	------	2	88	90	93	2.18	9.25
Other machinery	4	------	10	72	82	86	2.02	8.56
Handtools	----	------	------	49	49	49	1.15	4.88
Stepping on nail	----	------	------	17	17	17	.40	1.69
Electricity:								
Direct contact with trolley wire	----	------	------	------	------	------	------	------
Bar or tool striking trolley wire	----	------	------	------	------	------	------	------
Contact with motor	----	------	------	1	1	1	.02	.10
Others	----	------	------	14	14	14	.33	1.39
Fall of persons	----	------	4	110	114	114	2.67	11.34
Falling objects	1	------	3	93	96	97	2.28	9.65
Flying objects:								
From sledging	----	------	1	24	25	25	.59	2.49
From crushing	----	------	------	21	21	21	.49	2.09
Others	----	------	------	46	46	46	1.08	4.58
Handling materials:								
Handling rock by hand	1	------	4	75	79	80	1.88	7.96
Handling other material	----	------	1	105	106	106	2.49	10.55
Burns	----	------	------	40	40	40	.94	3.98
Other causes	2	------	3	134	137	139	3.26	13.83
Total crusher and mill	14	------	35	956	991	1,005	23.57	100.00

See footnotes at end of table, p. 8.

TABLE 3.—*Number and percentage distribution of injuries at all stone quarries in the United States by agency, work location, and degree of injury, 1957*—Continued

Agency and location	Fatal	Nonfatal					Percent of—	
		Permanent total [1]	Permanent partial [2]	Temporary total [3]	Total nonfatal	All injuries	Grand total	Group total
PROCESSING WORKS—Continued								
Auxiliary works:								
Quarry or mine cars and motors	1	------	------	1	1	2	0.05	0.62
Railway cars and locomotives	----	------	------	6	6	6	.14	1.86
Falls of persons	2	------	1	41	42	44	1.03	13.66
Falling objects (rocks, timber, etc.)	----	------	1	22	23	23	.54	7.14
Stepping on nail or sharp object	----	------	------	2	2	2	.05	.62
Handtools	----	------	1	28	29	29	.68	9.01
Electricity	2	------	------	1	1	3	.07	.93
Machinery	1	------	6	23	29	30	.70	9.32
Handling materials	2	------	5	110	115	117	2.74	36.34
Other causes	----	------	4	62	66	66	1.55	20.50
Total auxiliary works	8	------	18	296	314	322	7.55	100.00
Total processing works	22	------	53	1,252	1,305	1,327	31.31	100.00
Grand total	53	5	144	4,061	4,210	4,263	100.00	------

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[1] Permanent—Total Disability.—The loss of, or loss of use of, both hands, or both arms, or both legs, or both feet, or both eyes, or any two thereof; or any injury (except death) which permanently and totally incapacitates the injured person from following any gainful occupation.

[2] Permanent—Partial Disability.—An injury which permanently but only partially disables a worker. Includes the total or partial loss or loss of use of an arm, hand, leg, finger(s), eye, hearing, etc., even though no time was lost.

[3] Temporary—Total Injuries.—Any injury which does not result in death or permanent impairment, but which renders the injured person unable to perform a regularly established job which is open and available to him, during the entire time interval corresponding to the hours of his regular shift on any one or more days (including Sundays, days off, or plant shutdown) subsequent to the day of injury.

INJURY EXPERIENCE AT DIFFERENT KINDS OF QUARRIES

Cement rock.—The cement industry, including quarry and mill employees, showed an overall reduction in its injury-frequency rate for 1957. Two more fatal injuries occurred, but the number of nonfatal injuries decreased from 318 in 1956 to 277 in 1957, reducing the combined (fatal and nonfatal) injury-frequency rate from 4.48 to 3.94 (12 percent).

Of the 14 fatal injuries reported during 1957, 3 occurred in the open quarry and 1 each from handling materials, haulage, and fall of person. The remaining 11 men were killed outside the quarry—2 each from machinery, handling materials, and falls of persons; and 1 each from haulage, falling objects, and electricity. The 2 remaining were killed by undetermined causes. The principal causes of nonfatal injuries for 1957 were falls of persons, machinery, handling materials, and falling objects.

The number of men employed increased to 29,167 in 1957 from 27,923 in 1956 (4 percent), accompanied by increased man-hours of employment. Days active were reduced by 12, and each worker accumulated 2,535 hours of worktime, a decrease of 4 percent from 1956.

Granite.—The combined injury experience at granite quarries and related plants in 1957 was less favorable than in the preceding year, as shown by the combined (fatal and nonfatal) rate of 43.20, compared with 41.18 for 1956. The same number of fatalities were reported for both years; however, nonfatal injuries increased by 120 (25 percent). Six of the 8 fatal accidents occurred at the quarry—2 from falls of persons, 1 each from handling materials, falls of rock or overburden, run or fall of stone in bins, and handtools. The 2 fatalities in processing works were from machinery. Of the 592 nonfatal injuries, approximately 75 percent were quarry injuries. The principal causes were handling materials, falling objects, falls of persons, and machinery.

The number of men increased 16 percent in 1957; man-hours showed a similar increase, and each man averaged 1,979 hours while working an 8-hour day.

Limestone.—The injury experience at active limestone quarries and related plants for 1957, in relation to the number of operations and employment was slightly less favorable than in 1956. Fatal injuries increased to 21 in 1957 from the 17 reported in 1956, and the combined frequency rate (fatal and nonfatal) rose to 35.60 from 32.77 (9 percent). Of the 17 fatalities that occurred at the quarries, 7 were caused by falls or slides of rock, 6 by machinery, 2 from haulage, and 1 each from falls of persons and handling materials. The 4 deaths in the processing works were caused by haulage accidents and machinery. Most of the 1,960 nonfatal injuries occurred in the open quarry from machinery, handling materials, haulage, and falls of persons.

The number of active operations reported increased to 1,629 in 1957 from 1,252 in 1956. The number of men employed and the man-hours worked both increased 9 percent. Employees worked an average 8-hour day in both years and averaged approximately 1,940 man-hours per year.

Limestone (Chief product, lime).—Quarries that produced limestone chiefly for manufacturing lime reported only 1 fatality in 1957, compared with 6 in the preceding year. However, this outstanding improvement was not reflected in the nonfatal injuries, where an increase of 6 percent was noted. This gain and a decrease in man-hours caused the overall injury-frequency rate to increase to 23.98 in 1957 from 20.35 in 1956. The 1 fatal injury occurred in the outside works and was caused by machinery. The greater number of nonfatal injuries likewise occurred in the outside works, and the principal causes were handling materials, machinery, falls of persons, and falling objects.

The number of active operations increased 12 percent. Days active were less, and each man accumulated 2,273 hours while working an 8-hour day.

Marble.—The overall record of the marble-quarrying industry and its associated plants was more favorable in 1957 than in 1956. One fatality occurred, compared with 2 reported in 1956; and nonfatal injuries reported showed a slight decrease—from 191 in 1956 to 188 in 1957. This resulted in a decrease in the combined (fatal and nonfatal) injury-frequency rate of 23 percent. The one fatality was caused by electricity and occurred in the outside works. Of the 188 nonfatal injuries 89 occurred in the quarries and 99 in the outside works. The four principal causes of injuries were handling materials, machinery, falls of persons, and falling objects.

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The 77 active operations reporting to the Bureau of Mines in 1957 recorded an average employment of 3,160 men, reflecting an increase of 45 and 25 percent respectively, from that reported in 1956. The average annual man-hours worked per employee also increased from 2,102 in 1956 to 2,136 (27 percent) in 1957.

Sandstone.—The injury record for the 252 active sandstone operations in relation to the man-hours of employment for 1957 was not as favorable as that of the preceding years. Fatal injuries reported were the same (1 for each year), and nonfatal injuries revealed a 21-percent decrease. In 1957, 259 nonfatal injuries were reported, compared with 327 in 1956. The combined (fatal and nonfatal) injury-frequency rate increased to 52.12 from 48.57 (7 percent). A machinery accident in the processing works was the cause of the fatality, and approximately 70 percent of the nonfatal injuries occurred in the open quarry. The principal causes were handling materials, machinery, falling objects, and falls of persons.

Fewer men were employed, and fewer days active were reported. The average hours accumulated per man (1,674) were less than in 1956. Work shifts averaged 8 hours—approximately the same as during 1956.

Slate.—The safety record at slate quarries and associated plants was not as favorable in 1957 as in 1956. One fatal injury was reported in the open quarry, caused by a fall of person. The overall injury-frequency rate of 59.21 for 1957 was 38 percent higher than the combined fatal and nonfatal rate of 42.92 in 1956. Of the 169 nonfatal injuries reported, 138 were in the quarry and mine. The principal causes were handling materials, falls of persons, and machinery.

The number of active operations increased from 51 to 59 (16 percent). A decrease in the number of men working (3 percent) produced a 2-percent decrease in the man-hours of employment. The average employee worked 2,116 hours in 1957—slightly more than an 8-hour shift each day.

Traprock.—The safety record for active traprock quarries and their related plants was less favorable in 1957 than in the preceding year. Six fatalities and 277 nonfatal injuries were reported, with a combined injury-frequency rate of 53.08—an increase of 28 percent over the rate of 41.32 for 1956. Four of the fatalities occurred in the open quarry—1 each was caused by handling materials, haulage, and machinery, and the remaining from an undetermined cause. The 2 fatalities in the processing plant were caused by machinery and handling materials. The greater number of nonfatal injuries likewise occurred in the open quarry; the majority was caused by machinery, handling materials, falls of persons, and falling objects.

The industry employed 357 fewer men in 1957 than in 1956 and worked approximately the same length of shift, with a decrease of 9 percent in the man-hours of employment.

Miscellaneous stone.—This category comprises all stones not otherwise classified and was shown separately for the first time in 1957. No fatalities were reported; however, 41 nonfatal injuries were reported—36 in the open quarry and 5 at processing works. Most of the injuries were caused by handling materials, machinery, and haulage. The 71 active miscellaneous stone operations employed 650 men; each employee accumulated 2,003 hours and worked approximately 8 hours per day.

TABLE 4.—*Injury experience and employment data in the quarrying industry of the United States, by kind of stone, 1957*

Kind of stone	Injuries							Injury frequency per million man-hours								Average hours worked per man-day				Average hours worked per man-year			
	Fatal			Nonfatal				Fatal				Nonfatal											
	Quarry	Processing works	Total	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers
Cement rock[1]	3	11	14	43	234	277	277	0.36	0.17	0.19	0.18	5.18	3.57	3.75	3.55	7.74	8.02	7.99	7.99	2,139	2,596	2,535	2,513
Granite	6	2	8	447	145	592	595	.72	.36	.58	.54	53.48	26.22	42.62	40.44	8.38	8.25	8.33	8.32	1,945	2,034	1,979	1,983
Limestone	17	4	21	1,538	422	1,960	1,967	.43	.25	.38	.35	38.52	26.86	35.23	33.12	8.42	8.45	8.43	8.41	1,906	2,029	1,939	1,951
Limestone (chief product, lime)	----	1	1	200	247	447	449	----	.08	.05	.05	35.41	18.95	23.93	22.34	8.10	7.97	8.01	8.00	2,175	2,318	2,273	2,260
Marble	----	1	1	89	99	188	188	----	.21	.15	.14	43.77	20.99	27.85	26.78	8.35	8.27	8.29	8.28	2,011	2,195	2,136	2,133
Sandstone	----	1	1	179	80	259	259	----	.50	.20	.19	60.12	39.78	51.92	49.23	8.21	8.04	8.14	8.14	1,583	1,830	1,674	1,687
Slate	1	----	1	138	31	169	170	.71	----	.35	.33	97.52	21.29	58.86	56.51	8.06	8.62	8.33	8.31	2,048	2,187	2,116	2,114
Traprock	4	2	6	235	42	277	278	1.17	1.04	1.13	1.06	68.77	21.93	51.95	48.89	8.65	8.51	8.60	8.57	1,920	1,736	1,849	1,868
Miscellaneous stone	----	----	----	36	5	41	41	----	----	------	------	34.17	20.12	31.49	29.84	8.10	7.89	8.06	8.04	2,054	1,814	2,003	2,009
Total	31	22	53	2,905	1,305	4,210	4,224	.42	.20	.29	.27	39.72	11.84	22.96	21.72	8.29	8.11	8.18	8.17	1,945	2,370	2,180	2,177

Kind of stone	Active operations[2]	Men working				Man-days worked				Average days active				Man-hours worked			
		Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office workers
Cement rock[1]	189	3,882	25,285	29,167	31,004	1,073,508	8,180,447	9,253,955	9,756,201	277	324	318	315	8,305,514	65,634,449	73,939,963	77,923,926
Granite	276	4,298	2,719	7,017	7,420	997,378	670,340	1,667,718	1,769,262	232	247	238	238	8,359,022	5,530,725	13,889,747	14,713,585
Limestone	1,629	20,950	7,742	28,692	30,441	4,742,807	1,860,411	6,603,218	7,065,426	226	240	230	232	39,925,548	15,711,396	55,636,944	59,390,426
Limestone (chief product, lime)	143	2,597	5,623	8,220	8,893	696,995	1,634,922	2,331,917	2,513,408	268	291	284	283	5,648,797	13,033,869	18,682,666	20,102,587
Marble	77	1,011	2,149	3,160	3,290	243,494	570,599	814,093	848,202	241	266	258	258	2,033,343	4,716,945	6,750,288	7,019,119
Sandstone	252	1,881	1,099	2,980	3,119	362,609	250,256	612,865	646,656	193	228	206	207	2,977,624	2,011,122	4,988,746	5,261,477
Slate	59	687	670	1,357	1,423	175,580	168,976	344,556	362,247	254	254	254	255	1,415,079	1,456,276	2,871,355	3,008,478
Traprock	207	1,780	1,103	2,883	3,044	394,887	225,067	619,954	663,329	222	204	215	218	3,417,054	1,914,898	5,331,952	5,685,756
Miscellaneous stone	71	513	137	650	684	130,012	31,485	161,497	170,833	253	230	248	250	1,053,590	248,470	1,302,060	1,373,983
Total	2,903	37,599	46,527	84,126	89,318	8,817,270	13,592,503	22,409,773	23,795,564	235	292	266	266	73,135,571	110,258,150	183,393,721	194,479,337

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[1] Includes limestone or other stone used in manufacturing cement.

[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 5.—*Injuries in all stone quarries in the United States, by work location, kind of stone, and cause, 1957*

Degree of injury and kind of stone	Open quarry																											
	In quarry																Surface											
	Falls or slides of rock or overburden	Handling materials	Handtools	Explosives	Haulage	Falls of persons	Falling objects (other than 1 or 2)	Flying objects	Electricity	Drilling or channeling (by machine or hand)	Machinery	Stepping on nail or sharp object	Boiler and air-tank explosions	Burns from flames and hot or caustic materials	Other causes	Total in quarry	Quarry or mine cars or motors	Railway cars and locomotives	Run or fall of stone in or from bins	Fall of persons	Stepping on nail or sharp object	Handtools	Electricity	Machinery	Handling materials	Other causes	Total surface	Total open quarry
Fatal																												
Cement [1]	----	1	----	----	1	1	----	----	----	----	----	----	----	----	----	3	----	----	----	----	----	----	----	----	----	----	----	3
Granite	1	1	----	----	----	2	----	----	----	----	----	----	----	----	----	4	----	----	1	----	----	1	----	----	----	----	2	6
Limestone	4	1	----	----	1	1	----	----	----	----	4	----	----	----	----	11	----	----	1	----	----	----	----	2	----	1	4	15
Limestone (chief product, lime)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Marble	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Sandstone	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Slate	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	1
Traprock	----	1	----	----	1	----	----	----	----	----	1	----	----	----	1	4	----	----	----	----	----	----	----	----	----	----	----	4
Miscellaneous stone	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	5	4	----	----	3	5	----	----	----	----	5	----	----	----	1	23	----	----	2	----	----	1	----	2	----	1	6	29
Nonfatal:																												
Cement	1	1	1	----	3	7	----	3	----	3	5	----	----	----	5	29	----	----	----	----	----	1	----	----	5	3	9	38
Granite	16	72	23	1	17	52	17	49	2	25	30	5	----	7	54	370	----	3	2	13	1	18	----	11	13	16	77	447
Limestone	48	155	74	35	135	123	35	81	11	72	199	19	----	24	108	1, 119	4	10	9	45	8	40	8	45	56	75	300	1, 419
Limestone (chief product, lime)	12	13	3	1	14	13	5	11	----	12	14	----	----	7	5	110	1	4	1	13	1	1	----	11	13	16	61	171
Marble	----	17	1	----	3	14	4	3	----	12	9	----	----	2	10	75	----	1	----	----	----	----	----	----	----	----	1	76
Sandstone	8	60	8	----	5	17	6	11	1	8	18	----	----	----	13	155	----	1	1	6	----	1	----	8	5	2	24	179
Slate	3	31	5	2	1	14	1	4	----	----	1	----	----	----	6	68	5	2	3	4	----	5	----	7	25	17	68	136
Traprock	13	10	8	10	13	17	10	12	1	4	35	3	----	1	25	162	----	3	----	7	----	4	----	7	18	34	73	235
Miscellaneous stone	----	4	3	----	4	2	1	----	----	6	----	----	----	1	4	25	----	----	----	2	----	3	----	----	4	2	11	36
Total	101	363	126	49	195	259	79	174	15	142	311	27	----	42	230	2. 113	10	24	16	90	10	73	8	89	139	165	624	2. 737

See footnote at end of table, p. 14.

Degree of injury and kind of stone	Underground quarry																																			
	Underground																	Shaft and slope							Surface											
	Fall of rock from roof or wall	Handling rock while loading at working face or chute	Handtools	Explosives	Haulage	Falling down chute, winze, raise or stope	Run of rock from chute or pocket	Drilling	Electricity	Machinery (other than locomotive or drills)	Mine fires	Suffocation from natural gases	Inrush of water	Stepping on nail or sharp object	Handling material (other than rock)	Other causes	Total underground	Falling down shaft or slope	Objects falling down shaft or slope	Breaking of cables	Overwinding	Cage, skip, or bucket	Other causes	Total shaft and slope	Quarry or mine cars and motors	Railway cars and locomotives	Run or fall of stone in or from bins	Falls of persons	Stepping on nail or sharp object	Handtools	Electricity	Machinery	Handling materials	Other causes	Total surface	Total underground mine
Fatals:																																				
Cement [1]																																				
Granite																																				
Limestone	1				1												2																			2
Limestone (chief product lime)																																				
Marble																																				
Sandstone																																				
Slate																																				
Traprock																																				
Miscellaneous stone																																				
Total	1				1												2																			2
Nonfatals:																																				
Cement [1]	1	1	1							1						1	5																			5
Granite																																				
Limestone	12	9	3		2	4	1	18		5				2	9	20	85		1				3	4	1	2		4		3	1	4	5	10	30	119
Limestone (chief product lime)	2	6	3	2		1	1	3	1						2	2	23	3	1					4						1				1	2	29
Marble				1	3	2		4		1					1	1	13																			13
Sandstone																																				
Slate		1				1											2																			2
Traprock																																				
Miscellaneous stone																																				
Total	15	17	7	3	5	8	2	25	1	7				2	12	24	128	3	2				3	8	1	2		4		4	1	4	5	11	32	168

See footnote at end of table, p. 14.

TABLE 5.—*Injuries in all stone quarries in the United States, by work location, kind of stone, and cause, 1957*—Continued

Degree of injury and kind of stone	Processing works																							Total all departments	Officeworkers	Grand total
	Crusher and mill												Auxiliary works											Total processing works		
	Haulage	Machinery	Handtools	Stepping on nail or sharp object	Electricity	Falls of persons	Falling objects (rock, timbers, etc.)	Flying objects	Handling materials	Burns	Other causes	Total crusher and mill	Quarry or mine cars and motors	Railway cars and locomotives	Falls of persons	Falling objects (rocks, timbers, etc.)	Stepping on nail or sharp object	Hand tools	Electricity	Machinery	Handling materials	Other causes	Total auxiliary works			
Fatal:																										
Cement [1]	1	2					1				2	6			2				1		2		5	11	14		14
Granite		2										2												2	8		8
Limestone	2	1										3	1										1	4	21		21
Limestone (chief product, lime)		1										1												1	1		1
Marble																			1				1	1	1		1
Sandstone																				1			1	1	1		1
Slate																									1		1
Traprock		1							1			2												2	6		6
Miscellaneous stone																											
Total	3	7					1		1		2	14	1		2				2	1	2		8	22	53		53
Nonfatal:																											
Cement [1]	5	24	5	4	4	39	17	7	13	19	29	166		2	16	7		6		7	15	15	68	234	277		277
Granite	1	19	8	2	1	6	21	33	22	3	15	131			2			3		2	3	4	14	145	592	3	595
Limestone	29	88	24	6	4	35	28	32	54	7	37	344			5	12		7		7	29	18	78	422	1,960	7	1,967
Limestone (chief product, lime)	14	24	8	4	3	18	7	10	33	9	22	152	1	4	14	3	2	9		7	36	19	95	247	447	2	449
Marble	1	7	3	1		7	15	1	28		22	85			1					2	10	1	14	99	188		188
Sandstone	4	17			1	5	2	5	17	1	6	58			3			2	1	3	7	6	22	80	259		259
Slate	1	4			1	2			10		2	20			1					1	9		11	31	169	1	170
Traprock	2	6	1		1	2	4	4	8	1	4	33				1		2			3	3	9	42	277	1	278
Miscellaneous stone							2					2									3		3	5	41		41
Total	57	189	49	17	15	114	96	92	185	40	137	991	1	6	42	23	2	29	1	29	115	66	314	1,305	4,210	14	4,224

[1] Includes limestone or other stone used in manufacturing cement.

INJURY EXPERIENCE BY STATES

Analysis of data received from the operators of the 2,903 quarries and their associated plants revealed that 22 States employed 1,000 men or more. Of these, 5 States—Illinois, Texas, North Carolina, Wisconsin and Vermont—reported no fatalities; 5 other States had more favorable fatality rates than the average rate for the entire industry. Thirteen States established nonfatal-injury rates lower than the average for the entire quarrying industry. States with a lower overall rate for injury experience (fatal and nonfatal) for the total industry were: Michigan, Kansas, New York, Ohio, Illinois, West Virginia, Alabama, California, Missouri, Texas, Iowa, and Indiana.

Table 6.—*Relative standing of States, by average daily employment and fatal- and nonfatal-injury frequency rates, 1957* [1]

EXCLUDING OFFICEWORKERS

Relative standing	State	Employment	Relative standing	State	Fatality rate	Relative standing	State	Nonfatal injury rate
1	Pennsylvania	10, 522	1	Illinois	--------	1	Michigan	7. 25
2	Ohio	6, 108	2	Texas	--------	2	Kansas	9. 62
3	California	5, 402	3	North Carolina	--------	3	New York	13. 66
4	Missouri	4, 728	4	Wisconsin	--------	4	Ohio	14. 65
5	Indiana	4, 665	5	Vermont	--------	5	West Virginia	16. 35
6	New York	3, 993	6	New York	0. 11	6	Illinois	17. 65
7	Michigan	3, 884	7	Iowa	. 19	7	Pennsylvania	17. 69
8	Illinois	3, 465	8	Ohio	. 21	8	Alabama	18. 98
9	Tennessee	3, 235	9	Michigan	. 23	9	California	19. 08
10	Texas	2, 877	10	Kentucky	. 27	10	Missouri	19. 92
11	Virginia	2, 702	11	Indiana	. 29	11	Texas	20. 45
12	Georgia	2, 675	12	California	. 32	12	Iowa	20. 96
13	Alabama	2, 593	13	Missouri	. 32	13	Indiana	21. 94
14	Iowa	2, 357	14	Virginia	. 33	14	Florida	25. 37
15	North Carolina	2, 097	15	Alabama	. 33	15	Tennessee	27. 53
16	Wisconsin	2, 045	16	Pennsylvania	. 34	16	Virginia	28. 49
17	Florida	1, 945	17	Georgia	. 35	17	North Carolina	29. 38
18	Kentucky	1, 883	18	Florida	. 43	18	Georgia	31. 52
19	Kansas	1, 848	19	Tennessee	. 45	19	Minnesota	34. 91
20	Minnesota	1, 628	20	Minnesota	. 58	20	Vermont	38. 63
21	Vermont	1, 587	21	Kansas	. 85	21	Kentucky	42. 81
22	West Virginia	1, 236	22	West Virginia	1. 42	22	Wisconsin	72. 52
	U.S. total	84, 126		U.S. average	. 29		U.S. average	22. 96

INCLUDING OFFICEWORKERS

Relative standing	State	Employment	Relative standing	State	Fatality rate	Relative standing	State	Nonfatal injury rate
1	Pennsylvania	11, 298	1	Illinois	--------	1	Michigan	6. 86
2	Ohio	6, 545	2	Texas	--------	2	Kansas	8. 96
3	California	5, 769	3	North Carolina	--------	3	New York	13. 20
4	Missouri	5, 155	4	Wisconsin	--------	4	Ohio	13. 72
5	Indiana	4, 967	5	Vermont	--------	5	West Virginia	14. 61
6	New York	4, 249	6	New York	0. 11	6	Illinois	16. 50
7	Michigan	4, 115	7	Iowa	. 18	7	Pennsylvania	16. 64
8	Illinois	3, 732	8	Ohio	. 20	8	California	17. 96
9	Tennessee	3, 399	9	Michigan	. 21	9	Alabama	18. 29
10	Texas	3, 064	10	Kentucky	. 26	10	Missouri	18. 36
11	Virginia	2, 876	11	Indiana	. 27	11	Texas	19. 37
12	Iowa	2, 475	12	Missouri	. 29	12	Iowa	19. 99
13	Georgia	2, 771	13	California	. 30	13	Indiana	20. 65
14	Alabama	2, 700	14	Virginia	. 31	14	Florida	24. 57
15	North Carolina	2, 179	15	Pennsylvania	. 32	15	Tennessee	26. 33
16	Wisconsin	2, 139	16	Alabama	. 32	16	Virginia	26. 86
17	Florida	2, 012	17	Georgia	. 34	17	North Carolina	28. 15
18	Kentucky	1, 983	18	Florida	. 42	18	Georgia	30. 43
19	Kansas	1, 978	19	Tennessee	. 43	19	Minnesota	33. 21
20	Minnesota	1, 727	20	Minnesota	. 54	20	Massachusetts	37. 47
21	Vermont	1, 603	21	Kansas	. 79	21	Vermont	38. 26
22	West Virginia	1, 364	22	Massachusetts	. 99	22	Kentucky	40. 65
23	Massachusetts	1, 009	23	West Virginia	1. 27	23	Wisconsin	69. 21
	U.S. total	89, 318		U.S. average	. 27		U.S. average	21. 72

[1] Includes only those States wherein 1,000 or more men are employed.

TABLE 7.—*Active stone quarries, men working, man-days worked, and man-hours worked at all stone quarries in the United States, by States, 1957*

State	Active operations [1]	Men at work										
		Open quarry	Underground quarry	Processing works						Total	Office-workers	Grand total
				Crusher	Sawing and finishing plant	Granules and flour plant	Cement mill	Lime-kiln	Auxiliary works			
Alabama	50	897	13	230	153	25	628	155	492	2,593	107	2,700
Arizona	23	110	--------	34	1	8	56	16	24	249	18	267
Arkansas	21	229	22	35	4	28	47	--------	41	406	15	421
California	161	1,645	155	482	10	66	1,574	157	1,313	5,402	367	5,769
Colorado	53	210	8	67	15	--------	161	--------	166	627	24	651
Connecticut	22	241	--------	125	12	6	--------	4	49	437	32	469
Florida	72	1,231	--------	278	11	--------	312	15	100	1,947	65	2,012
Georgia	67	1,197	88	221	550	187	174	--------	258	2,675	96	2,771
Idaho	19	82	--------	79	--------	--------	56	--------	5	222	7	229
Illinois	166	1,737	258	472	4	33	583	120	258	3,465	267	3,732
Indiana	114	1,668	12	231	1,237	--------	1,249	--------	268	4,665	302	4,967
Iowa	147	1,191	33	281	--------	--------	779	17	56	2,357	118	2,475
Kansas	105	698	111	207	52	--------	347	--------	433	1,848	130	1,978
Kentucky	91	971	444	269	1	--------	158	--------	40	1,883	100	1,983
Louisiana	4	21	--------	25	--------	--------	249	8	65	368	14	382
Maine	12	139	38	14	113	--------	130	--------	35	469	27	496
Maryland	14	297	--------	81	1	--------	294	8	123	804	45	849
Massachusetts	28	414	--------	71	203	84	--------	8	153	933	76	1,009
Michigan	39	1,442	--------	568	7	--------	1,386	42	439	3,884	231	4,115
Minnesota	96	482	--------	128	739	9	187	12	71	1,628	99	1,727
Missouri	223	1,670	570	377	315	23	685	547	541	4,728	427	5,155
Montana	17	107	--------	17	--------	--------	56	7	46	233	9	242
Nebraska	28	272	--------	90	--------	15	149	--------	71	597	34	631
Nevada	11	70	--------	7	5	--------	--------	12	33	127	10	137
New Hampshire	5	39	--------	6	62	--------	--------	--------	3	110	11	121
New Jersey	17	310	--------	70	--------	9	--------	--------	119	508	56	564
New Mexico	9	39	--------	17	3	--------	--------	1	--------	60	--------	60
New York	78	1,716	38	443	65	46	1,156	51	478	3,993	256	4,249
North Carolina	62	1,283	--------	523	240	--------	--------	--------	51	2,097	82	2,179
Ohio	131	1,942	333	795	313	35	1,062	605	1,023	6,108	437	6,545
Oklahoma	35	392	19	73	45	266	--------	38	79	912	38	950
Oregon	73	293	1	169	5	--------	127	22	98	715	28	743
Pennsylvania	217	3,309	925	757	319	164	3,062	329	1,657	10,522	776	11,298
South Carolina	12	394	--------	53	9	14	97	--------	31	598	16	614
South Dakota	19	227	--------	29	39	--------	78	5	89	467	22	489
Tennessee	123	1,675	90	337	366	2	462	57	246	3,235	164	3,399
Texas	66	761	--------	296	123	--------	1,205	217	275	2,877	187	3,064
Utah	13	269	--------	40	1	--------	53	5	58	426	18	444
Vermont	44	828	28	34	582	--------	5	51	59	1,587	16	1,603
Virginia	79	1,226	151	346	127	36	433	146	237	2,702	174	2,876
Washington	86	413	6	201	21	--------	241	--------	52	934	43	977
West Virginia	25	402	179	105	2	5	276	122	145	1,236	128	1,364
Wisconsin	207	1,360	--------	247	121	54	137	54	72	2,045	94	2,139
Wyoming	7	61	41	26	--------	--------	54	--------	64	246	12	258
Other States [2]	12	76	--------	58	--------	--------	54	--------	13	201	14	215
Total	2,903	34,036	3,563	9,014	5,876	1,115	17,762	2,831	9,929	84,126	5,192	89,318

See footnotes at end of table, p. 20.

TABLE 7.—*Active stone quarries, men working, man-days worked, and man-hours worked at all stone quarries in the United States, by States, 1957*—Continued

State	Man-days worked										
	Open quarry	Underground quarry	Processing works						Total	Office-workers	Grand total
			Crusher	Sawing andfinishing plant	Granules and flour plant	Cement mill	Limekiln	Auxiliary works			
Alabama	227, 537	8, 380	60, 105	39, 360	6, 139	207, 678	45, 730	149, 851	739, 780	28, 894	768, 674
Arizona	25, 961	----------	10, 014	150	2, 040	20, 286	5, 451	7, 678	71, 580	5, 768	77, 348
Arkansas	38, 484	5, 720	6, 141	626	6, 979	17, 228	----------	14, 896	90, 074	3, 545	93, 619
California	415, 297	44, 843	128, 421	2, 566	16, 327	495, 667	45, 044	350, 743	1, 498, 908	96, 947	1, 595, 855
Colorado	49, 538	1, 838	16, 318	3, 576	----------	55, 314	----------	56, 068	182, 652	6, 186	188, 838
Connecticut	66, 482	----------	34, 342	2, 855	1, 765	----------	1, 460	13, 049	119, 953	8, 887	128, 840
Florida	320, 634	----------	75, 388	2, 800	----------	97, 596	5, 481	30, 782	532, 681	18, 201	550, 882
Georgia	297, 712	24, 217	54, 947	138, 419	53, 476	51, 227	----------	67, 170	687, 168	24, 522	711, 690
Idaho	8, 428	----------	7, 941	----------	----------	12, 507	----------	1, 110	29, 986	847	30, 833
Illinois	412, 161	64, 374	113, 587	941	9, 603	197, 116	42, 124	72, 296	912, 202	72, 010	984, 212
Indiana	394, 954	3, 600	57, 871	304, 398	----------	451, 955	----------	70, 625	1, 283, 403	79, 729	1, 363, 132
Iowa	253, 347	7, 552	57, 689	----------	----------	266, 939	4, 915	18, 291	608, 733	30, 944	639, 677
Kansas	125, 616	28, 536	37, 628	12, 600	----------	119, 310	----------	109, 367	433, 057	32, 727	465, 784
Kentucky	206, 866	103, 710	56, 858	280	----------	57, 698	----------	14, 600	440, 012	26, 466	466, 478
Louisiana	5, 583	----------	8, 680	----------	----------	90, 946	2, 795	23, 859	131, 863	3, 520	135, 383
Maine	32, 007	9, 842	3, 371	21, 675	----------	43, 631	----------	8, 840	119, 366	7, 001	126, 367
Maryland	66, 907	----------	18, 057	245	----------	77, 745	1, 972	30, 796	195, 722	11, 349	207, 071
Massachusetts	96, 386	----------	16, 626	53, 460	17, 653	----------	2, 920	41, 720	228, 765	19, 620	248, 385
Michigan	334, 283	----------	133, 883	1, 269	----------	471, 193	13, 275	145, 711	1, 099, 614	63, 189	1, 162, 803
Minnesota	94, 930	----------	23, 979	200, 755	2, 008	68, 270	3, 612	19, 686	413, 240	25, 811	439, 051
Missouri	295, 264	138, 283	79, 625	92, 908	7, 180	231, 092	153, 070	138, 354	1, 135, 776	111, 655	1, 247, 431
Montana	19, 360	----------	3, 367	----------	----------	20, 466	2, 100	16, 550	61, 843	2, 120	63, 963
Nebraska	65, 089	----------	17, 523	----------	4, 519	54, 413	----------	25, 866	167, 410	8, 962	176, 372
Nevada	16, 440	----------	1, 804	1, 466	----------	----------	4, 074	11, 461	35, 245	2, 725	37, 970
New Hampshire	9, 437	----------	1, 060	15, 670	----------	----------	----------	780	26, 947	2, 875	29, 822
New Jersey	78, 773	----------	15, 991	----------	2, 418	----------	----------	27, 846	125, 028	15, 459	140, 487
New Mexico	7, 305	----------	2, 384	30	----------	----------	260	----------	9, 979	----------	9, 979
New York	402, 781	10, 302	104, 652	17, 534	. 12, 060	370, 006	15, 857	131, 553	1, 064, 745	65, 863	1, 130, 608
North Carolina	262, 625	----------	115, 197	59, 759	----------	----------	----------	12, 518	450, 099	19, 901	470, 000
Ohio	494, 582	98, 757	229, 570	74, 687	10, 227	365, 494	184, 905	289, 617	1, 747, 839	118, 616	1, 866, 455
Oklahoma	95, 994	4, 940	17, 482	11, 256	----------	96, 274	11, 866	28, 584	266, 396	11, 694	278, 090
Oregon	45, 456	97	24, 237	600	----------	46, 054	462	35, 408	152, 314	5, 655	157, 969
Pennsylvania	852, 079	221, 665	191, 779	81, 239	45, 695	1, 004, 614	95, 606	456, 321	2, 948, 998	204, 433	3, 153, 431
South Carolina	101, 214	----------	13, 671	2, 288	2, 825	32, 610	----------	7, 388	159, 996	4, 607	164, 603
South Dakota	60, 402	----------	7, 951	9, 978	----------	27, 705	1, 825	26, 961	134, 822	6, 602	141, 424
Tennessee	390, 310	24, 453	71, 543	93, 520	520	143, 605	18, 796	64, 300	807, 047	45, 982	853, 029
Texas	227, 542	----------	85, 863	31, 076	----------	438, 507	73, 308	87, 467	943, 763	53, 725	997, 488
Utah	80, 549	----------	11, 556	168	----------	19, 247	1, 581	20, 277	133, 378	4, 528	137, 906
Vermont	201, 124	7, 280	9, 784	156, 343	----------	1, 671	16, 490	15, 720	408, 412	4, 204	412, 616
Virginia	309, 276	38, 538	85, 726	31, 940	9, 723	145, 409	46, 279	62, 867	729, 758	46, 142	775, 900
Washington	69, 378	1, 962	29, 693	4, 491	----------	83, 449	----------	15, 890	204, 863	10, 984	215, 847
West Virginia	93, 304	42, 783	24, 264	355	1, 255	98, 415	42, 132	42, 336	344, 844	41, 933	386, 777
Wisconsin	241, 640	----------	42, 987	30, 008	13, 527	49, 961	17, 793	18, 522	414, 438	23, 345	437, 783
Wyoming	13, 888	10, 368	6, 856	----------	----------	19, 881	----------	22, 678	73, 671	3, 996	77, 677
Other States [3]	13, 305	----------	7, 211	----------	----------	19, 652	----------	3, 235	43, 403	3, 622	47, 025
Total	7, 920, 230	897, 040	2, 123, 622	1, 501, 291	225, 939	6, 070, 831	861, 183	2, 809, 637	22, 409, 773	1, 385, 791	23, 795, 564

See footnotes at end of table, p. 20.

TABLE 7.—*Active stone quarries, men working, man-days worked, and man-hours worked at all stone quarries in the United States, by States, 1957*—Continued

State	Average days worked						Average hours of work per man per day					
	Open quarry	Underground quarry	Processing works	Total	Office-workers	Grand total	Open quarry	Underground quarry	Processing works	Total	Office-workers	Grand total
Alabama	254	260	302	285	270	285	8.20	8.00	8.08	8.12	7.93	8.11
Arizona	236	---------	328	287	320	290	8.00	---------	8.00	8.00	8.00	8.00
Arkansas	168	260	296	222	236	222	8.02	8.00	8.04	8.03	7.87	8.02
California	252	289	288	277	264	277	8.47	8.00	8.18	8.25	7.96	8.23
Colorado	236	230	321	291	258	290	7.95	8.00	8.00	7.99	8.07	7.99
Connecticut	276	---------	273	274	278	275	9.51	---------	9.23	9.38	9.02	9.36
Florida	260	---------	296	274	280	274	8.98	---------	8.35	8.73	8.28	8.72
Georgia	249	275	263	257	255	257	8.23	8.12	8.21	8.22	8.18	8.22
Idaho	103	---------	154	135	121	135	8.49	---------	8.32	8.37	8.00	8.36
Illinois	237	250	296	263	270	264	8.52	8.08	8.18	8.32	8.12	8.30
Indiana	237	300	296	275	264	274	8.11	8.00	8.04	8.06	8.12	8.07
Iowa	212	229	307	258	262	258	9.05	8.51	8.17	8.54	8.16	8.52
Kansas	180	257	268	234	252	235	8.32	8.26	8.07	8.16	8.05	8.15
Kentucky	213	234	277	234	265	235	8.23	8.47	8.20	8.28	8.24	8.28
Louisiana	266	---------	364	358	251	354	8.00	---------	8.00	8.00	8.00	8.00
Maine	230	259	265	255	259	255	8.21	8.00	8.16	8.16	8.30	8.17
Maryland	225	---------	254	243	252	244	8.68	---------	8.09	8.29	8.07	8.28
Massachusetts	233	---------	255	245	258	246	8.33	---------	8.10	8.19	7.83	8.17
Michigan	232	---------	313	283	274	283	8.06	---------	8.01	8.02	8.00	8.02
Minnesota	197	---------	278	254	261	254	8.63	---------	8.32	8.39	8.04	8.37
Missouri	177	243	282	240	261	242	8.32	7.98	8.16	8.18	8.04	8.16
Montana	181	---------	337	265	236	264	8.68	---------	8.05	8.25	7.87	8.23
Nebraska	239	---------	315	280	264	280	8.33	---------	8.13	8.20	7.79	8.18
Nevada	235	---------	330	278	273	277	8.00	---------	8.00	8.00	8.00	8.00
New Hampshire	242	---------	247	245	261	246	8.68	---------	8.06	8.28	8.00	8.25
New Jersey	254	---------	234	246	276	249	8.73	---------	8.48	8.64	8.35	8.61
New Mexico	187	---------	127	166	---------	166	8.00	---------	8.00	8.00	---------	8.00
New York	235	271	291	267	257	266	8.39	8.00	8.05	8.18	8.12	8.18
North Carolina	204	---------	231	215	243	216	8.24	---------	8.07	8.17	8.08	8.16
Ohio	255	297	301	286	271	285	8.15	8.00	8.00	8.04	8.07	8.05
Oklahoma	245	260	330	292	308	293	8.61	8.00	8.07	8.26	7.37	8.22
Oregon	155	97	254	213	202	213	8.08	7.98	8.02	8.03	7.96	8.03
Pennsylvania	258	240	298	280	263	279	7.94	7.92	8.09	8.03	7.86	8.02
South Carolina	257	---------	288	268	288	268	8.10	---------	8.02	8.07	8.78	8.09
South Dakota	266	---------	310	289	300	289	8.24	---------	8.02	8.12	8.14	8.12
Tennessee	233	272	267	249	280	251	8.34	8.33	8.13	8.24	7.43	8.19
Texas	299	---------	338	328	287	326	8.07	---------	8.22	8.19	8.03	8.18
Utah	299	---------	336	313	252	311	8.04	---------	8.01	8.03	7.89	8.02
Vermont	243	260	274	257	263	257	8.18	8.51	8.04	8.11	7.42	8.11
Virginia	252	255	288	270	265	270	8.32	8.69	8.10	8.22	7.90	8.20
Washington	168	327	259	219	255	221	8.20	8.00	8.08	8.12	7.98	8.12
West Virginia	232	239	319	279	328	284	8.37	8.08	8.08	8.16	7.98	8.14
Wisconsin	178	---------	252	203	248	205	8.57	---------	8.21	8.42	7.77	8.38
Wyoming	228	253	343	299	333	301	8.15	7.97	8.00	8.03	8.00	8.02
Other States [3]	175	---------	241	216	259	219	8.67	---------	8.14	8.30	8.00	8.28
Total	233	252	292	266	267	266	8.32	8.10	8.11	8.18	8.00	8.17

See footnotes at end of table, p. 20.

TABLE 7.—*Active stone quarries, men working, man-days worked, and man-hours worked at all stone quarries in the United States, by States, 1957*—Continued

Man-hours worked

State	Open quarry	Underground quarry	Processing works							Office-workers	Grand total
			Crusher	Sawing and finishing plant	Granules and flour plant	Cement mill	Lime-kiln	Auxiliary works	Total		
Alabama	1, 865, 645	27, 040	505, 400	324, 880	52, 698	1, 661, 417	365, 839	1, 202, 332	6, 005, 251	229, 026	6, 234, 277
Arizona	207, 645	----------	80, 111	1, 200	16, 320	162, 285	43, 608	61, 425	572, 594	46, 144	618, 738
Arkansas	308, 679	45, 760	50, 932	5, 008	55, 831	137, 822	----------	119, 169	723, 201	27, 896	751, 097
California	3, 515, 883	358, 749	1, 043, 414	20, 525	136, 468	3, 965, 331	360, 355	2, 968, 256	12, 368, 981	771, 335	13, 140, 316
Colorado	393, 738	14, 700	130, 560	28, 586	----------	442, 517	----------	448, 540	1, 458, 641	49, 934	1, 508, 575
Connecticut	632, 330	----------	335, 715	22, 553	14, 122	----------	11, 680	109, 248	1, 125, 648	80, 187	1, 205, 835
Florida	2, 880, 371	----------	677, 024	22, 700	----------	780, 764	43, 848	246, 556	4, 651, 263	150, 674	4, 801, 937
Georgia	2, 451, 238	196, 596	482, 063	1, 118, 289	442, 464	409, 817	----------	547, 417	5, 647, 884	200, 670	5, 848, 554
Idaho	71, 595	----------	70, 495	----------	----------	100, 058	----------	8, 880	251, 028	6, 774	257, 802
Illinois	3, 511, 522	519, 939	976, 892	8, 000	83, 889	1, 576, 926	336, 984	579, 362	7, 593, 514	584, 376	8, 177, 890
Indiana	3, 204, 778	28, 800	480, 657	2, 451, 595	----------	3, 615, 633	----------	565, 983	10, 347, 446	647, 727	10, 995, 173
Iowa	2, 294, 232	64, 276	519, 476	----------	----------	2, 135, 517	39, 320	146, 331	5, 199, 152	252, 452	5, 451, 604
Kansas	1, 045, 527	235, 846	317, 996	100, 800	----------	956, 407	----------	876, 725	3, 533, 301	263, 348	3, 796, 649
Kentucky	1, 703, 267	878, 740	475, 256	2, 240	----------	467, 585	----------	116, 800	3, 643, 888	218, 029	3, 861, 917
Louisiana	44, 671	----------	69, 433	----------	----------	727, 564	22, 352	190, 874	1, 054, 894	28, 160	1, 083, 054
Maine	262, 822	78, 736	28, 177	182, 117	----------	349, 049	----------	72, 900	973, 801	58, 085	1, 031, 886
Maryland	580, 970	----------	155, 211	1, 960	----------	624, 336	16, 067	244, 124	1, 622, 668	91, 564	1, 714, 232
Massachusetts	802, 712	----------	142, 244	427, 689	146, 324	----------	23, 360	332, 351	1, 874, 680	153, 662	2, 028, 342
Michigan	2, 692, 826	----------	1, 075, 846	10, 148	----------	3, 769, 551	109, 369	1, 165, 684	8, 823, 424	505, 502	9, 328, 926
Minnesota	819, 149	----------	218, 413	1, 673, 544	18, 075	546, 162	28, 896	161, 907	3, 466, 146	207, 504	3, 673, 650
Missouri	2, 456, 770	1, 103, 399	661, 344	829, 364	57, 440	1, 849, 096	1, 221, 562	1, 108, 747	9, 287, 722	897, 547	10, 185, 269
Montana	168, 102	----------	28, 982	----------	----------	163, 724	16, 800	132, 403	510, 011	16, 680	526, 691
Nebraska	542, 182	----------	150, 632	----------	38, 514	435, 303	----------	206, 925	1, 373, 556	69, 796	1, 443, 352
Nevada	131, 519	----------	14, 436	11, 728	----------	----------	32, 592	91, 688	281, 963	21, 800	303, 763
New Hampshire	81, 930	----------	9, 540	125, 360	----------	----------	----------	6, 240	223, 070	23, 000	246, 070
New Jersey	687, 802	----------	138, 135	----------	19, 644	----------	----------	234, 367	1, 079, 948	129, 030	1, 208, 978
New Mexico	58, 440	----------	19, 072	240	----------	----------	2, 080	----------	79, 832	----------	79, 832
New York	3, 378, 645	82, 416	855, 614	121, 949	97, 479	2, 974, 513	126, 856	1, 071, 919	8, 709, 391	535, 066	9, 244, 457
North Carolina	2, 163, 196	----------	934, 240	486, 072	----------	----------	----------	92, 144	3, 675, 652	160, 715	3, 836, 367
Ohio	4, 028, 528	790, 137	1, 869, 033	583, 620	82, 294	2, 923, 970	1, 467, 942	2, 314, 277	14, 059, 801	956, 943	15, 016, 744
Oklahoma	826, 474	39, 520	151, 362	90, 056	----------	770, 195	94, 810	228, 670	2, 201, 087	86, 180	2, 287, 267
Oregon	367, 152	774	195, 649	4, 800	----------	368, 433	3, 696	283, 271	1, 223, 775	44, 997	1, 268, 772
Pennsylvania	6, 765, 612	1, 756, 389	1, 593, 559	714, 982	363, 209	8, 036, 948	766, 176	3, 690, 821	23, 687, 696	1, 607, 722	25, 295, 418
South Carolina	819, 466	----------	110, 408	18, 304	22, 600	260, 880	----------	59, 104	1, 290, 762	40, 456	1, 331, 218
South Dakota	497, 955	----------	68, 463	76, 238	----------	221, 640	14, 600	215, 688	1, 094, 584	53, 766	1, 148, 350
Tennessee	3, 254, 307	203, 785	613, 603	756, 724	4, 160	1, 151, 715	150, 368	512, 729	6, 647, 391	341, 782	6, 989, 173
Texas	1, 836, 461	----------	735, 246	251, 292	----------	3, 508, 061	586, 469	808, 685	7, 726, 214	431, 347	8, 157, 561
Utah	647, 443	----------	93, 144	1, 008	----------	153, 974	12, 618	162, 216	1, 070, 433	35, 716	1, 106, 149
Vermont	1, 644, 724	61, 950	78, 272	1, 268, 869	----------	9, 688	132, 248	118, 160	3, 313, 911	31, 197	3, 345, 108
Virginia	2, 574, 133	334, 712	729, 896	266, 645	93, 594	1, 163, 823	359, 149	479, 455	6, 001, 407	364, 369	6, 365, 776
Washington	569, 151	15, 696	248, 774	35, 931	----------	667, 586	----------	127, 118	1, 664, 256	87, 641	1, 751, 897
West Virginia	781, 369	345, 497	206, 446	2, 840	10, 270	787, 826	340, 651	338, 929	2, 813, 828	334, 461	3, 148, 289
Wisconsin	2, 069, 939	----------	375, 905	240, 277	109, 062	399, 691	143, 774	149, 883	3, 488, 531	181, 410	3, 669, 941
Wyoming	113, 227	82, 627	54, 943	----------	----------	159, 049	----------	181, 422	591, 268	31, 970	623, 238
Other States [2]	115, 360	----------	61, 769	----------	----------	157, 217	----------	25, 881	360, 227	28, 976	389, 203
Total	65, 869, 487	7, 266, 084	17, 833, 782	12, 288, 133	1, 864, 457	48, 592, 073	6, 874, 099	22, 805, 606	183, 393, 721	11, 085, 616	194, 479, 337

[1] Includes a small number of mills or other plants not operated in connection with quarries.

[2] Includes Alaska, Delaware, Mississippi, and Rhode Island.

TABLE 8.—*Injuries and injury-frequency rates at all stone quarries in the United States, by States, 1957*

State	Injuries										Injury-frequency per million man-hours									
	Fatal					Nonfatal					Fatal					Nonfatal				
	Open-quarry	Under-ground	Proc-essing works	Total, exclud-ing office-workers	Total, includ-ing office-workers	Open-quarry	Under-ground	Proc-essing works	Total, exclud-ing office-workers	Total, includ-ing office-workers	Open-quarry	Under-ground	Proc-essing works	Total, exclud-ing office-workers	Total, includ-ing office-workers	Open-quarry	Under-ground	Proc-essing works	Total, exclud-ing office-workers	Total, includ-ing office-workers
Alabama			2	2	2	56		58	114	114			0.49	0.33	0.32	30.02		14.10	18.98	18.29
Arizona						4		4	8	8						19.26		10.96	13.97	12.93
Arkansas						10	1	3	14	14						32.40	21.85	8.14	19.36	18.64
California	3		1	4	4	123	36	77	236	236	0.85		.12	.32	.30	34.98	100.35	9.06	19.08	17.96
Colorado						48		9	57	57						121.91		8.57	39.08	37.78
Connecticut						45		14	59	59						71.17		28.38	52.41	48.93
Florida			2	2	2	97		21	118	118			1.13	.43	.42	33.68		11.86	25.37	24.57
Georgia			2	2	2	133	8	37	178	178			.67	.35	.34	54.26	40.69	12.33	31.52	30.43
Idaho						1		5	6	6						13.97		27.87	23.90	23.27
Illinois						103	6	25	134	135						29.33	11.54	7.03	17.65	16.51
Indiana	1		2	3	3	136	1	90	227	227	.31		.28	.29	.27	42.44	34.72	12.65	21.94	20.65
Iowa		1		1	1	74	10	25	109	109		15.56		.19	.18	32.25	155.58	8.80	20.96	19.99
Kansas	2		1	3	3	24		10	34	34	1.91		.44	.85	.79	22.95		4.44	9.62	8.96
Kentucky		1		1	1	101	27	28	156	157		1.14		.27	.26	59.30	30.73	26.37	42.81	40.65
Louisiana								3	3	3								2.97	2.84	2.77
Maine	1			1	1	27	2	17	46	46	3.80			1.03	.97	102.73	25.40	26.89	47.24	44.58
Maryland						13		12	25	25						22.38		11.52	15.41	14.58
Massachusetts	2			2	2	58		18	76	76	2.49			1.07	.99	72.26		16.79	40.54	37.47
Michigan	2			2	2	39		25	64	64	.74			.23	.21	14.48		4.08	7.25	6.86
Minnesota	1		1	2	2	68		53	121	122	1.22		.38	.58	.54	83.01		20.02	34.91	33.21
Missouri	2		1	3	3	88	21	76	185	187	.81		.17	.32	.29	35.82	19.03	13.27	19.92	18.36
Montana						6			6	6						35.69			11.76	11.39
Nebraska						19		3	22	22						35.04		3.61	16.02	15.24
Nevada						10		14	24	24						76.03		93.06	85.12	79.01
New Hampshire						14		20	34	36						170.88		141.70	152.42	146.30
New Jersey			1	1	1	72		11	83	83			2.55	.93	.83	104.68		28.05	76.86	68.65
New Mexico						7			7	7						119.78			87.68	87.68
New York			1	1	1	64	8	47	119	122			.19	.11	.11	18.94	97.07	8.96	13.66	13.20
North Carolina						102		6	108	108						47.15		3.97	29.38	28.15
Ohio	2		1	3	3	115	2	89	206	206	.50		.11	.21	.20	28.55	2.53	9.63	14.65	13.72
Oklahoma						33	2	22	57	57						39.93	50.61	16.48	25.90	24.92
Oregon						29		36	65	65						78.99		42.06	53.11	51.23
Pennsylvania	6		2	8	8	287	5	127	419	421	.89		.13	.34	.32	42.42	2.85	8.37	17.69	16.64
South Carolina						30		8	38	38						36.61		16.97	29.44	28.55
South Dakota	1			1	1	27		24	51	51	2.01			.91	.87	54.22		40.23	46.59	44.41
Tennessee	3			3	3	129	9	45	183	184	.92			.45	.43	39.64	44.16	14.11	27.53	26.33
Texas						92		66	158	158						50.10		11.21	20.45	19.37
Utah			1	1	1	6		3	9	9			2.36	.93	.90	9.26		7.09	8.41	8.14
Vermont						72	12	44	128	128						43.78	193.70	27.38	38.63	38.26
Virginia	1		1	2	2	132		39	171	171	.39		.32	.33	.31	51.28		12.61	28.49	26.86
Washington	1			1	1	24		13	37	37	1.76			.60	.57	42.17		12.04	22.23	21.12
West Virginia	1		3	4	4	21	13	12	46	46	1.28		1.78	1.42	1.27	26.88	37.63	7.11	16.35	14.61
Wisconsin						190		63	253	254						91.79		44.41	72.52	69.21
Wyoming						3	5	1	9	9						26.50	60.51	2.53	15.22	14.44
Other States [1]						5		2	7	7						43.34		8.17	19.43	17.99
Total	29	2	22	53	53	2,737	168	1,305	4,210	4,224	.44	.28	.20	.29	.27	41.55	23.12	11.84	22.96	21.72

[1] Includes Alaska, Delaware, Mississippi, and Rhode Island.

TABLE 9.—*Injuries at all stone quarries in the United States in 1957, by degree of injury and State*

State	Fatal	Nonfatal				Grand total, excluding officeworkers	Grand total, including officeworkers
		Permanent total [1]	Permanent partial [1]	Temporary total [1]	Total nonfatal		
Alabama	2		9	105	114	116	116
Arizona		1		7	8	8	8
Arkansas			2	12	14	14	14
California	4		14	222	236	240	240
Colorado				57	57	57	57
Connecticut			2	57	59	59	59
Florida	2		1	117	118	120	120
Georgia	2		4	174	178	180	180
Idaho			1	5	6	6	6
Illinois			4	130	134	134	135
Indiana	3		5	222	227	230	230
Iowa	1		2	107	109	110	110
Kansas	3		3	31	34	37	37
Kentucky	1	1	1	154	156	157	158
Louisiana				3	3	3	3
Maine	1		1	45	46	47	47
Maryland			4	21	25	25	25
Massachusetts	2			76	76	78	78
Michigan	2		2	62	64	66	66
Minnesota	2		3	118	121	123	124
Missouri	3	1	10	174	185	188	190
Montana			2	4	6	6	6
Nebraska		1	4	17	22	22	22
Nevada				24	24	24	24
New Hampshire				34	34	34	36
New Jersey	1		1	82	83	84	84
New Mexico				7	7	7	7
New York	1		7	112	119	120	123
North Carolina			7	101	108	108	108
Ohio	3		5	201	206	209	209
Oklahoma			1	56	57	57	57
Oregon				65	65	65	65
Pennsylvania	8		5	414	419	427	429
South Carolina				38	38	38	38
South Dakota	1		1	50	51	52	52
Tennessee	3	1	12	170	183	186	187
Texas			12	146	158	158	158
Utah	1		1	8	9	10	10
Vermont			2	126	128	128	128
Virginia	2		7	164	171	173	173
Washington	1			37	37	38	38
West Virginia	4		2	44	46	50	50
Wisconsin			6	247	253	253	254
Wyoming			1	8	9	9	9
Other States [2]				7	7	7	7
Total	53	5	144	4, 061	4, 210	4, 263	4, 277

[1] See definitions at end of table 3, p. 8.

[2] Includes Alaska, Delaware, Mississippi, and Rhode Island.

TABLE 10.—*Fatal injuries at all stone quarries in the United States, by cause, work location, and State, 1957*

State	Open quarry																
	In quarry																
	Falls or slides of rock or overburden	Handling materials	Handtools	Explosives	Haulage	Falls of persons	Falling objects	Flying objects	Electricity	Drilling and channeling (by machine or hand)	Machinery	Stepping on nail or sharp object	Boiler and airtank explosions	Burns from flames and hot or caustic materials	Other causes	Surface	Total
Alabama																	
Arizona																	
Arkansas																	
California		2				1											3
Colorado																	
Connecticut																	
Florida																	
Georgia																	
Idaho																	
Illinois																	
Indiana											1						1
Iowa																	
Kansas					1	1											2
Kentucky																	
Louisiana																	
Maine																1	1
Maryland																	
Massachusetts						1									1		2
Michigan					1						1						2
Minnesota																1	1
Missouri		1									1						2
Montana																	
Nebraska																	
Nevada																	
New Hanpshire																	
New Jersey																	
New Mexico																	
New York																	
North Carolina																	
Ohio											1					1	2
Oklahoma																	
Oregon																	
Pennsylvania	3				1	1					1						6
South Carolina																	
South Dakota	1																1
Tennessee																3	3
Texas																	
Utah																	
Vermont																	
Virginia						1											1
Washington		1															1
West Virginia	1																1
Wisconsin																	
Wyoming																	
Other States [1]																	
Total	5	4			3	5					5				1	6	29

See footnote at end of table, p. 25.

TABLE 10.—*Fatal injuries at all stone quarries in the United States, by cause, work location, and State, 1957*—Continued

State	Underground quarry																			
	Underground																			Total
	Falls of rock from roof or wall	Handling rock while loading at working face or chute	Handtools	Explosives	Haulage	Falling down chute, winze, raise, or stope	Run of rock from chute or pocket	Drilling	Electricity	Machinery (other than locomotives or drills)	Mine fires	Suffocation from natural gases	Inrush of water	Stepping on nail or sharp object	Handling materials (other than rock)	Other causes	Total underground	Shaft and stope	Surface	
Alabama																				
Arizona																				
Arkansas																				
California																				
Colorado																				
Connecticut																				
Florida																				
Georgia																				
Idaho																				
Illinois																				
Indiana																				
Iowa					1															1
Kansas																				
Kentucky	1																			1
Louisiana																				
Maine																				
Maryland																				
Massachusetts																				
Michigan																				
Minnesota																				
Missouri																				
Montana																				
Nebraska																				
Nevada																				
New Hampshire																				
New Jersey																				
New Mexico																				
New York																				
North Carolina																				
Ohio																				
Oklahoma																				
Oregon																				
Pennsylvania																				
South Carolina																				
South Dakota																				
Tennessee																				
Texas																				
Utah																				
Vermont																				
Virginia																				
Washington																				
West Virginia																				
Wisconsin																				
Wyoming																				
Other States [1]																				
Total	1				1															2

See footnote at end of table, p. 25.

TABLE 10.—*Fatal injuries at all stone quarries in the United States, by cause, work location, and State, 1957*—Continued

State	Processing works														Grand total, excluding officeworkers	Grand total, including officeworkers
	Haulage	Machinery	Handtools	Stepping on nail or sharp object	Electricity	Falls of persons	Falling objects (rocks, timbers, etc.)	Flying objects	Handling materials	Burns	Other causes	Total processing works	Auxiliary works	Total		
Alabama													2	2	2	2
Arizona																
Arkansas																
California									1			1		1	4	4
Colorado																
Connecticut																
Florida		1										1	1	2	2	2
Georgia	1											1	1	2	2	2
Idaho																
Illinois																
Indiana		1										1	1	2	3	3
Iowa															1	1
Kansas	1											1		1	3	3
Kentucky															1	1
Louisiana																
Maine															1	1
Maryland																
Massachusetts															2	2
Michigan															2	2
Minnesota		1										1		1	2	2
Missouri		1										1		1	3	3
Montana																
Nebraska																
Nevada																
New Hampshire																
New Jersey		1										1		1	1	1
New Mexico																
New York													1	1	1	1
North Carolina																
Ohio													1	1	3	3
Oklahoma																
Oregon																
Pennsylvania							1					1	1	2	8	8
South Carolina																
South Dakota															1	1
Tennessee															3	3
Texas																
Utah	1											1		1	1	1
Vermont																
Virginia		1										1		1	2	2
Washington															1	1
West Virginia		1									2	3		3	4	4
Wisconsin																
Wyoming																
Other States [1]																
Total	3	7					1		1		2	14	8	22	53	53

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[1] Includes Alaska, Delaware, Mississippi, and Rhode Island.

TABLE 11.—*Nonfatal injuries at all stone quarries in the United States, by cause, work location, and State, 1957*

State	Open quarry																
	In quarry															Surface	Total
	Falls or slides of rock or overburden	Handling materials	Handtools	Explosives	Haulage	Falls of persons	Falling objects	Flying objects	Electricity	Drilling or channeling (by machine or hand)	Machinery	Stepping on nails or sharp object	Boiler and air-tank explosions	Burns from flames and hot or caustic materials	Other causes		
Alabama	-----	7	1	1	2	2	1	9	-----	8	5	1	-----	1	7	11	56
Arizona	2	-----	-----	-----	-----	-----	-----	-----	-----	1	1	-----	-----	-----	-----	-----	4
Arkansas	-----	1	2	-----	-----	2	1	-----	-----	1	1	-----	-----	-----	-----	2	10
California	5	19	7	-----	5	15	1	-----	2	9	11	1	-----	2	8	38	123
Colorado	-----	27	1	2	5	1	-----	4	-----	-----	4	1	-----	2	1	-----	48
Connecticut	-----	3	-----	-----	-----	-----	9	1	-----	-----	2	-----	-----	-----	16	14	45
Florida	1	7	8	1	15	9	2	3	2	3	20	2	-----	1	2	21	97
Georgia	11	14	4	2	9	9	6	8	-----	10	9	5	-----	-----	38	8	133
Idaho	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	1
Illinois	4	11	2	4	7	10	-----	3	3	8	13	2	-----	2	9	25	103
Indiana	5	12	20	-----	10	8	3	8	-----	10	32	1	-----	1	2	24	136
Iowa	-----	10	1	1	14	7	-----	3	-----	1	15	-----	-----	1	5	16	74
Kansas	-----	2	2	-----	3	4	1	-----	-----	1	2	-----	-----	1	1	7	24
Kentucky	3	8	4	1	9	14	3	5	-----	6	10	1	-----	-----	14	23	101
Louisiana	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Maine	-----	3	-----	-----	-----	-----	-----	3	-----	3	5	-----	-----	-----	2	11	27
Maryland	2	2	-----	-----	1	-----	1	2	-----	-----	2	1	-----	-----	2	-----	13
Massachusetts	3	10	2	-----	3	7	-----	6	-----	1	15	-----	-----	1	2	8	58
Michigan	2	5	1	3	4	4	1	-----	-----	3	2	-----	-----	1	-----	13	39
Minnesota	5	7	6	1	6	9	2	6	2	8	6	1	-----	-----	1	8	68
Missouri	1	9	7	3	6	10	3	8	-----	2	15	-----	-----	2	4	18	88
Montana	1	1	-----	-----	1	-----	-----	-----	-----	1	1	-----	-----	-----	-----	1	6
Nebraska	-----	2	-----	1	-----	-----	-----	1	-----	-----	4	2	-----	1	5	3	19
Nevada	-----	-----	-----	-----	-----	-----	-----	-----	-----	4	-----	-----	-----	-----	-----	6	10
New Hampshire	-----	-----	-----	-----	-----	1	-----	3	-----	-----	-----	-----	-----	-----	-----	10	14
New Jersey	2	1	1	10	1	7	2	1	-----	1	4	-----	-----	-----	4	38	72
New Mexico	-----	-----	-----	-----	1	-----	3	-----	-----	-----	1	-----	-----	-----	2	-----	7
New York	-----	12	1	-----	10	4	-----	1	-----	2	6	1	-----	1	2	24	64
North Carolina	3	26	4	-----	3	13	7	11	1	4	4	2	-----	2	10	12	102
Ohio	-----	12	5	1	3	13	1	10	-----	13	16	-----	-----	3	7	31	115
Oklahoma	1	3	2	-----	2	3	2	-----	-----	2	4	-----	-----	-----	8	6	33
Oregon	4	-----	2	-----	4	5	-----	-----	-----	1	4	2	-----	1	1	5	29
Pennsylvania	7	29	2	1	12	25	6	24	2	11	23	2	-----	1	26	116	287
South Carolina	3	9	4	-----	-----	1	1	7	-----	-----	1	-----	-----	1	1	2	30
South Dakota	-----	4	-----	-----	5	6	1	4	-----	3	1	-----	-----	1	-----	2	27
Tennessee	5	20	5	9	2	19	8	12	3	6	10	1	-----	6	10	13	129
Texas	4	7	5	1	11	13	2	3	-----	4	5	-----	-----	5	2	30	92
Utah	-----	-----	-----	2	3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	6
Vermont	2	20	4	-----	1	11	-----	1	-----	4	8	-----	-----	1	8	12	72
Virginia	13	9	6	1	14	6	2	8	-----	3	17	1	-----	2	8	42	132
Washington	-----	4	1	-----	1	3	2	3	-----	-----	-----	-----	-----	-----	5	5	24
West Virginia	2	5	1	-----	3	2	-----	3	-----	-----	4	-----	-----	-----	-----	1	21
Wisconsin	10	42	15	4	19	15	8	11	-----	8	27	-----	-----	2	15	14	190
Wyoming	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	1	-----	-----	-----	1	-----	3
Other States [1]	-----	-----	-----	-----	-----	1	-----	1	-----	-----	-----	-----	-----	-----	-----	3	5
Total	101	363	126	49	195	259	79	174	15	142	311	27	-----	42	230	624	2,737

See footnote at end of table, p. 28.

TABLE 11.—*Nonfatal injuries at all stone quarries in the United States, by cause, work location, and State, 1957*—Continued

State	Underground																Total underground	Shaft and slope	Surface	Total
	Falls of rock from roof or wall	Handling rock while loading at working face or chute	Handtools	Explosives	Haulage	Falling down chute, winze, raise or stope	Run of rock from chute or pocket	Drilling	Electricity	Machinery (other than locomotives or drills)	Mine fires	Suffocation from natural gases	Inrush of water	Stepping on nail or sharp object	Handling materials (other than rock)	Other causes				
Alabama																				
Arizona																				
Arkansas	1																1			1
California	3	11	3			3		5							1	1	27	5	4	36
Colorado																				
Connecticut																				
Florida																				
Georgia					1					1						1	3		5	8
Idaho																				
Illinois			1												1	3	5		1	6
Indiana																			1	1
Iowa	1							2								3	6		4	10
Kansas																				
Kentucky	1	2	1					6		1					1	4	16		11	27
Louisiana																				
Maine		1				1											2			2
Maryland																				
Massachusetts																				
Michigan																				
Minnesota																				
Missouri	2			2	1	1	1	1						2	1	6	17		4	21
Montana																				
Nebraska																				
Nevada																				
New Hampshire																				
New Jersey																				
New Mexico																				
New York	1	1	1					1		2					2		8			8
North Carolina																				
Ohio			1													1	2			2
Oklahoma		1							1								2			2
Oregon																				
Pennsylvania	1	1														2	4	1		5
South Carolina																				
South Dakota																				
Tennessee	1							2		1					1		5	2	2	9
Texas																				
Utah																				
Vermont				1	3	2		4		1					1		12			12
Virginia																				
Washington																				
West Virginia	4					1		2		1					3	2	13			13
Wisconsin																				
Wyoming							1	2							1	1	5			5
Other States [1]																				
Total	15	17	7	3	5	8	2	25	1	7				2	12	24	128	8	32	168

See footnote at end of table, p. 28.

TABLE 11.—*Nonfatal injuries at all stone quarries in the United States, by cause, work location, and State, 1957*—Continued

State	Processing works														Grand total, excluding office workers	Grand total, including office workers
	Haulage	Machinery	Handtools	Stepping on nail or sharp object	Electricity	Falls of persons	Falling objects (rocks, timbers, etc.)	Flying objects	Handling materials	Burns	Other causes	Total, processing works	Auxiliary works	Total		
Alabama	2	12		2		5	2	4	2	1	8	38	20	58	114	114
Arizona		1							1			2	2	4	8	8
Arkansas									1	1		2	1	3	14	14
California	3	17	1			4	4	6	11	2	7	55	22	77	236	236
Colorado		4				1			4			9		9	57	57
Connecticut	2	5										7	7	14	59	59
Florida		2	1	1		2	2	1	3	1	1	14	7	21	118	118
Georgia	3	3	1	1		1	1	4	2		3	19	18	37	178	178
Idaho						1		1				2	3	5	6	6
Illinois	1	8	1	2	1	3	2	3	2			23	2	25	134	135
Indiana	2	13	10		1	10	4	3	12	5	5	65	25	90	227	227
Iowa	2	1	1		2	1	1	3	5	3	2	21	4	25	109	109
Kansas	2	1	1			1	1	1	1	1	1	10		10	34	34
Kentucky	1	3	1	3	3	3	1	4	2	3	4	28		28	156	157
Louisiana	1									1		2	1	3	3	3
Maine	1	6		1		3		2	1	1	1	16	1	17	46	46
Maryland		3			2	2	2	1		1		11	1	12	25	25
Massachusetts	2							1	6	2	2	13	5	18	76	76
Michigan		7		1		6	4	1	1		4	24	1	25	64	64
Minnesota	1	12	2			3	8	2	9	1	11	49	4	53	121	122
Missouri	2	5	7	1	1	7	5	11	18	1	18	76		76	185	187
Montana															6	6
Nebraska									3			3		3	22	22
Nevada									5			5	9	14	24	24
New Hampshire							10	8	2			20		20	34	36
New Jersey		2	1		1	2	1		2		2	11		11	83	83
New Mexico															7	7
New York	5	9	1			2	5	2	1	5	3	33	14	47	119	122
North Carolina		2	1				2		1			6		6	108	108
Ohio	3	9	4		1	11	1	4	13	2	4	52	37	89	206	206
Oklahoma		3	2			3	5	2	2	1	4	22		22	57	57
Oregon			2			6			4	1	9	22	14	36	65	65
Pennsylvania	8	17	1	1	1	10	7	3	22	1	14	85	42	127	419	421
South Carolina		4		1				2	1			8		8	38	38
South Dakota	2	4				1	5		1		9	22	2	24	51	51
Tennessee	2	2	1	1		2	3	2	5	1	8	27	18	45	183	184
Texas	7	4	7			9	4	2	7	3	3	46	20	66	158	158
Utah								1	2			3		3	9	9
Vermont	2	3	3	1		5	11		11		8	44		44	128	128
Virginia	3	11		1		5		2	5	2	2	31	8	39	171	171
Washington		2					3	3	3		2	13		13	37	37
West Virginia		2				4		2	3		1	12		12	46	46
Wisconsin		11			2		2	11	11		1	38	25	63	253	254
Wyoming													1	1	9	9
Other States[1]		1				1						2		2	7	7
Total	57	189	49	17	15	114	96	92	185	40	137	991	314	1,305	4,210	4,224

[1] Includes Alaska, Delaware, Mississippi, and Rhode Island.

TABLE 12.—*Injury and employment data on cement operations in the United States, by States, 1957*

State	Injuries								Frequency rate per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers	Quarry	Processing works	Total, excluding office-workers	Total, including office-workers
Alabama	------	2	2	2	2	17	19	19	------	0.74	0.64	0.62	5.07	6.28	6.13	5.91
California	2	------	2	2	11	37	48	48	1.51	------	.24	.23	8.29	5.38	5.85	5.57
Florida	------	1	1	1	------	6	6	6	------	.99	.87	.84	------	5.93	5.22	5.05
Georgia	------	------	------	------	------	3	3	3	------	------	------	------	------	5.71	4.56	4.39
Illinois	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Indiana	------	2	2	2	1	11	12	12	------	.49	.47	.45	5.04	2.68	2.79	2.67
Iowa	------	------	------	------	1	5	6	6	------	------	------	------	3.56	2.09	2.25	2.14
Kansas	------	------	------	------	1	3	4	4	------	------	------	------	3.52	1.63	1.88	1.73
Michigan	------	------	------	------	1	8	9	9	------	------	------	------	13.83	1.64	1.82	1.72
Missouri	------	------	------	------	1	1	2	2	------	------	------	------	2.71	.39	.68	.62
New York	------	------	------	------	4	11	15	15	------	------	------	------	12.17	2.80	3.52	3.35
Ohio	------	------	------	------	2	12	14	14	------	------	------	------	3.00	2.96	2.97	2.78
Oregon	------	------	------	------	2	25	27	27	------	------	------	------	17.61	37.31	34.46	33.41
Pennsylvania	1	2	3	3	4	19	23	23	.73	.20	.26	.25	2.92	1.87	2.00	1.90
Tennessee	------	------	------	------	2	5	7	7	------	------	------	------	7.95	3.32	3.98	3.80
Texas	------	------	------	------	2	9	11	11	------	------	------	------	5.42	2.21	2.47	2.34
Virginia	------	1	1	1	------	5	5	5	------	.72	.62	.60	------	3.59	3.08	2.98
Washington	------	------	------	------	4	------	4	4	------	------	------	------	23.81	------	4.03	3.83
West Virginia	------	2	2	2	------	4	4	4	------	1.83	1.55	1.32	------	3.67	3.10	2.64
Other States [1]	------	1	1	1	5	53	58	58	------	.11	.10	.10	4.41	5.93	5.76	5.54
Total	3	11	14	14	43	234	277	277	.36	.17	.19	.18	5.18	3.57	3.75	3.55

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
Alabama	394,490	2,706,541	3,101,031	111,597	3,212,628	10	190	1,054	1,244	52	1,296
California	1,327,166	6,882,239	8,209,405	415,382	8,624,787	15	597	2,837	3,434	190	3,624
Florida	136,703	1,012,172	1,148,875	39,000	1,187,875	3	61	406	467	16	483
Georgia	132,764	525,786	658,550	25,176	683,726	4	64	223	287	11	298
Illinois	278,549	2,094,754	2,373,303	113,377	2,486,680	4	126	826	952	55	1,007
Indiana	198,220	4,101,408	4,299,628	192,873	4,492,501	4	91	1,476	1,567	90	1,657
Iowa	280,727	2,390,328	2,671,055	127,874	2,798,929	7	136	888	1,024	56	1,080
Kansas	284,451	1,844,900	2,129,351	181,594	2,310,945	8	135	779	914	89	1,003
Michigan	72,301	4,878,323	4,950,624	285,551	5,236,175	9	32	1,807	1,839	129	1,968
Missouri	369,682	2,566,890	2,936,572	282,187	3,218,759	6	178	1,036	1,214	138	1,352
New York	328,562	3,927,881	4,256,443	225,480	4,481,923	12	162	1,587	1,749	106	1,855
Ohio	666,979	4,048,155	4,715,134	325,923	5,041,057	14	305	1,525	1,830	155	1,985
Oregon	113,563	669,979	783,542	24,605	808,147	5	59	233	292	12	304
Pennsylvania	1,369,115	10,154,210	11,523,325	580,728	12,104,053	27	669	4,006	4,675	285	4,960
Tennessee	251,444	1,508,097	1,759,541	81,594	1,841,135	7	126	622	748	34	782
Texas	369,216	4,076,229	4,445,445	245,827	4,691,272	13	159	1,442	1,601	106	1,707
Virginia	230,202	1,391,055	1,621,257	59,410	1,680,667	6	110	539	649	30	679
Washington	167,992	825,019	993,011	51,701	1,044,712	7	85	309	394	25	419
West Virginia	200,061	1,090,184	1,290,245	225,210	1,515,455	3	115	394	509	78	587
Other States [1]	1,133,327	8,940,299	10,073,626	388,874	10,462,500	25	482	3,296	3,778	180	3,958
Total	8,305,514	65,634,449	73,939,963	3,983,963	77,923,926	189	3,882	25,285	29,167	1,837	31,004

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
Alabama	49,306	338,296	387,602	14,124	401,726	260	321	312	272	310
California	165,895	840,062	1,005,957	51,922	1,057,879	278	296	293	273	292
Florida	17,088	126,522	143,610	4,875	148,485	280	312	308	305	307
Georgia	16,595	65,723	82,318	3,147	85,465	259	295	287	286	287
Illinois	34,820	261,844	296,664	14,420	311,084	276	317	312	266	309
Indiana	24,778	512,677	537,455	24,109	561,564	272	347	343	268	339
Iowa	35,092	298,789	333,881	15,985	349,866	258	336	326	282	324
Kansas	35,069	230,372	265,441	22,700	288,141	260	296	290	255	287
Michigan	9,037	609,790	618,827	35,694	654,521	282	337	337	277	333
Missouri	46,209	320,779	366,988	35,438	402,426	260	310	302	257	298
New York	40,825	489,139	529,964	29,009	558,973	252	308	303	274	301
Ohio	83,380	506,007	589,387	40,826	630,213	273	332	322	263	317
Oregon	14,196	83,746	97,942	3,076	101,018	241	359	335	256	332
Pennsylvania	210,260	1,269,273	1,479,533	75,134	1,554,667	314	317	316	264	313
Tennessee	31,430	188,513	219,943	9,873	229,816	249	303	294	290	294
Texas	46,153	509,527	555,680	30,728	586,408	290	353	347	290	344
Virginia	28,848	173,721	202,569	7,426	209,995	262	322	312	248	309
Washington	19,930	103,064	122,994	6,463	129,457	234	334	312	259	309
West Virginia	24,957	136,210	161,167	28,310	189,477	217	346	317	363	323
Other States [1]	139,640	1,116,393	1,256,033	48,987	1,305,020	290	339	332	272	330
Total	1,073,508	8,180,447	9,253,955	502,246	9,756,201	277	324	318	273	315

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[1] Includes Arizona, Arkansas, Colorado, Idaho, Kentucky, Louisiana, Maine, Maryland, Minnesota, Mississippi, Montana, Nebraska, Oklahoma, South Carolina, South Dakota, Utah, Wisconsin, and Wyoming.

[2] Includes a small number of mills or other plants not operated in connection with quarries.

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TABLE 13.—*Injury and employment data on granite operations in the United States, by States, 1957*

State	Injuries								Frequency rate per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
California	1	------	1	1	55	6	61	61	0.82	------	0.68	0.60	45.10	24.13	41.55	36.57
Connecticut	------	------	------	------	1	1	2	2	------	------	------	------	13.59	12.41	12.98	11.95
Georgia	------	------	------	------	98	18	116	116	------	------	------	------	55.28	21.75	44.61	42.62
Maine	1	------	1	1	17	8	25	25	9.77	------	4.72	4.63	166.01	73.11	118.02	115.79
Massachusetts	1	------	1	1	27	11	38	38	2.16	------	.94	.86	58.39	18.29	35.72	32.68
Minnesota	1	1	2	2	22	20	42	42	3.20	0.59	1.00	.95	70.30	11.90	21.07	19.95
New Hampshire	------	------	------	------	12	20	32	34	------	------	------	------	500.00	145.99	198 76	184.78
North Carolina	------	------	------	------	76	2	78	78	------	------	------	------	41.95	1.77	26.54	25.54
Oklahoma	------	------	------	------	5	10	15	15	------	------	------	------	102.79	108.55	106.56	105.13
Pennsylvania	------	------	------	------	2	1	3	3	------	------	------	------	65.34	20.16	37.40	32.89
South Carolina	------	------	------	------	29	5	34	34	------	------	------	------	41.81	41.15	41.71	40.58
South Dakota	1	------	1	1	19	2	21	21	5.53	------	3.83	3.73	105.00	24.88	80.35	78.27
Vermont	------	------	------	------	13	------	13	13	------	------	------	------	19.88	------	18.26	18.26
Virginia	1	------	1	1	26	2	28	28	1.79	------	1.64	1.57	46.57	37.91	45.82	43.90
Wisconsin	------	------	------	------	22	21	43	44	------	------	------	------	110.72	151.94	127.63	123.00
Other States [1]	------	1	1	1	23	18	41	41	------	7.95	2.94	2.59	107.22	143.16	120.50	106.00
Total	6	2	8	8	447	145	592	595	.72	.36	.58	.54	53.48	26.22	42.62	40.44

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
California	1,219,576	248,605	1,468,181	199,922	1,668,103	43	502	116	618	102	720
Connecticut	73,560	80,553	154,113	13,200	167,313	6	33	37	70	6	76
Georgia	1,772,917	827,546	2,600,463	121,202	2,721,665	41	869	394	1,263	61	1,324
Maine	102,405	109,429	211,834	4,081	215,915	5	67	77	144	2	146
Massachusetts	462,443	601,490	1,063,933	99,010	1,162,943	15	266	289	555	49	604
Minnesota	312,923	1,680,724	1,993,647	111,736	2,105,383	29	151	744	895	52	947
New Hampshire	24,000	137,000	161,000	23,000	184,000	3	11	69	80	11	91
North Carolina	1,811,848	1,127,017	2,938,865	114,932	3,053,797	50	1,104	614	1,718	60	1,778
Oklahoma	48,644	92,120	140,764	1,920	142,684	7	26	46	72	1	73
Pennsylvania	30,608	49,600	80,208	11,004	91,212	6	19	25	44	6	50
South Carolina	693,614	121,496	815,110	22,800	837,910	8	329	58	387	8	395
South Dakota	180,947	80,398	261,345	6,950	268,295	10	85	41	126	3	129
Vermont	653,999	58,040	712,039	------	712,039	6	335	31	366	------	366
Virginia	558,325	52,762	611,087	26,715	637,802	9	258	25	283	12	295
Wisconsin	198,699	138,208	336,907	20,816	357,723	10	104	70	174	10	184
Other States [1]	214,514	125,737	340,251	46,550	386,801	28	139	83	222	20	242
Total	8,359,022	5,530,725	13,889,747	823,838	14,713,585	276	4,298	2,719	7,017	403	7,420

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
California	132,197	28,811	161,008	25,362	186,370	263	248	261	249	259
Connecticut	9,195	10,105	19,300	1,650	20,950	279	273	276	275	276
Georgia	215,496	97,038	312,534	14,665	327,199	248	246	247	240	247
Maine	12,800	13,679	26,479	475	26,954	191	178	184	238	185
Massachusetts	56,464	74,404	130,868	12,226	143,094	212	257	236	250	237
Minnesota	36,799	201,074	237,873	14,035	251,908	244	270	266	270	266
New Hampshire	3,000	17,050	20,050	2,875	22,925	273	247	251	261	252
North Carolina	219,943	139,147	359,090	14,198	373,288	199	227	209	237	210
Oklahoma	6,015	11,514	17,529	240	17,769	231	250	243	240	243
Pennsylvania	3,826	6,200	10,026	1,500	11,526	201	248	228	250	231
South Carolina	85,483	15,057	100,540	2,400	102,940	260	260	260	300	261
South Dakota	22,201	10,498	32,699	900	33,599	261	256	260	300	260
Vermont	77,431	7,255	84,686	------	84,686	231	234	231	------	231
Virginia	66,160	6,035	72,195	2,961	75,156	256	241	255	247	255
Wisconsin	24,640	17,276	41,916	2,602	44,518	237	247	241	260	242
Other States [1]	25,728	15,197	40,925	5,455	46,380	185	183	184	273	192
Total	997,378	670,340	1,667,718	101,544	1,769,262	232	247	238	252	238

[1] Includes Alaska, Arizona, Colorado, Delaware, Missouri, Montana, New Jersey, Oregon, Rhode Island, Tennessee, Washington, and Wyoming.
[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 14.—*Injury and employment data on limestone operations in the United States, by States, 1957*

State	Injuries								Frequency rates per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
Alabama	------	------	------	------	35	27	62	62	------	------	------	------	38. 16	54. 85	43. 99	42. 60
Arkansas	------	------	------	------	4	------	4	4	------	------	------	------	35. 21	------	29. 52	28. 43
California	------	------	------	------	29	14	43	43	------	------	------	------	79. 55	62. 95	73. 26	69. 71
Colorado	------	------	------	------	22	1	23	23	------	------	------	------	132. 21	14. 43	97. 58	94. 18
Florida	------	1	1	1	97	9	106	106	------	1. 52	0. 30	0. 29	36. 75	13. 65	32. 13	31. 08
Georgia	------	1	1	1	32	6	38	38	------	6. 00	2. 56	2. 49	142. 44	36. 02	97. 13	94. 63
Illinois	------	------	------	------	109	17	126	127	------	------	------	------	29. 24	17. 14	26. 70	24. 70
Indiana	1	------	1	1	130	70	200	200	0. 34	------	. 17	. 16	43. 84	24. 56	34. 39	31. 94
Iowa	1	------	1	1	79	18	97	97	. 50	------	. 41	. 39	39. 23	44. 04	40. 04	38. 12
Kansas	1	1	2	2	22	5	27	27	1. 06	2. 69	1. 52	1. 43	23. 22	13. 46	20. 47	19. 31
Kentucky	1	------	1	1	126	19	145	146	. 40	------	. 34	. 32	50. 86	40. 79	49. 27	46. 47
Maryland	------	------	------	------	6	------	6	6	------	------	------	------	29. 49	------	28. 49	26. 87
Michigan	2	------	2	2	36	11	47	47	. 77	------	. 55	. 52	13. 03	10. 40	12. 90	12. 19
Minnesota	------	------	------	------	42	30	72	73	------	------	------	------	95. 90	92. 43	94. 42	90. 24
Missouri	2	------	2	2	83	20	103	103	. 86	------	. 70	. 64	35. 69	37. 46	36. 02	32. 85
Nebraska	------	------	------	------	19	2	21	21	------	------	------	------	50. 47	13. 77	40. 25	37. 48
New York	------	------	------	------	52	25	77	79	------	------	------	------	19. 71	27. 17	21. 64	20. 70
North Carolina	------	------	------	------	15	4	19	19	------	------	------	------	56. 44	15. 74	36. 55	34. 70
Ohio	2	1	3	3	48	12	60	60	. 81	1. 01	. 87	. 80	19. 50	12. 15	17. 40	16. 96
Oklahoma	------	------	------	------	26	4	30	30	------	------	------	------	45. 63	37. 39	44. 33	42. 74
Pennsylvania	3	------	3	3	119	39	158	159	. 78	------	. 55	. 50	31. 03	23. 55	28. 78	26. 76
South Dakota	------	------	------	------	8	1	9	9	------	------	------	------	56. 42	25. 60	49. 76	45. 79
Tennessee	3	------	3	3	73	7	80	81	1. 42	------	1. 15	1. 08	34. 48	13. 97	30. 55	29. 24
Texas	------	------	------	------	61	40	101	101	------	------	------	------	50. 06	36. 69	43. 75	41. 54
Utah	------	------	------	------	4	------	4	4	------	------	------	------	30. 96	------	25. 09	23. 31
Virginia	------	------	------	------	53	10	63	63	------	------	------	------	43. 97	21. 71	37. 82	34. 96
West Virginia	1	------	1	1	30	8	38	38	1. 49	------	1. 23	1. 16	44. 79	54. 63	46. 56	43. 90
Wisconsin	------	------	------	------	152	19	171	171	------	------	------	------	93. 84	47. 83	84. 78	80. 59
Wyoming	------	------	------	------	5	------	5	5	------	------	------	------	41. 06	------	33. 18	32. 66
Other States [1]	------	------	------	------	21	4	25	25	------	------	------	------	46. 96	13. 21	33. 33	32. 32
Total	17	4	21	21	1, 538	422	1, 960	1, 967	. 43	. 25	. 38	. 35	38. 52	26. 86	35. 23	33. 12

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
Alabama	917, 230	492, 259	1, 409, 489	45, 949	1, 455, 438	23	444	231	675	21	696
Arkansas	113, 607	21, 881	135, 488	5, 200	140, 688	3	55	11	66	3	69
California	364, 566	222, 410	586, 976	29, 852	616, 828	15	170	103	273	14	287
Colorado	166, 398	69, 316	235, 714	8, 496	244, 210	16	96	39	135	3	138
Florida	2, 639, 460	659, 328	3, 298, 788	111, 674	3, 410, 462	67	1, 124	271	1, 395	49	1, 444
Georgia	224, 660	166, 576	391, 236	10, 308	401, 544	8	99	71	170	4	174
Illinois	3, 727, 503	991, 883	4, 719, 386	422, 245	5, 141, 631	154	1, 850	469	2, 319	193	2, 512
Indiana	2, 965, 468	2, 850, 740	5, 816, 208	444, 934	6, 261, 142	104	1, 553	1, 428	2, 981	207	3, 188
Iowa	2, 013, 633	408, 716	2, 422, 349	122, 082	2, 544, 431	139	1, 055	227	1, 282	59	1, 341
Kansas	947, 594	371, 532	1, 319, 126	79, 450	1, 398, 576	92	648	241	889	40	929
Kentucky	2, 477, 341	465, 786	2, 943, 127	198, 373	3, 141, 500	84	1, 366	265	1, 631	92	1, 723
Maryland	203, 482	7, 116	210, 598	12, 680	223, 278	5	115	5	120	6	126
Michigan	2, 584, 483	1, 058, 136	3, 642, 619	212, 808	3, 855, 427	23	1, 386	560	1, 946	98	2, 044
Minnesota	437, 964	324, 554	762, 518	46, 440	808, 958	62	293	170	463	23	486
Missouri	2, 325, 740	533, 949	2, 859, 689	275, 976	3, 135, 665	195	1, 645	323	1, 968	135	2, 103
Nebraska	376, 479	145, 197	521, 676	38, 626	560, 302	26	206	87	293	19	312
New York	2, 638, 538	920, 181	3, 558, 719	257, 655	3, 816, 374	41	1, 350	462	1, 812	114	1, 926
North Carolina	265, 752	254, 059	519, 811	27, 793	547, 604	7	137	132	269	13	282
Ohio	2, 460, 929	987, 679	3, 448, 608	309, 945	3, 758, 553	76	1, 097	414	1, 511	135	1, 646
Oklahoma	569. 818	106, 992	676, 810	25, 140	701, 950	19	273	49	322	11	333
Pennsylvania	3, 834, 432	1, 656, 268	5, 490, 700	449, 987	5, 940, 687	87	1, 947	777	2, 724	207	2, 931
South Dakota	141, 800	39, 055	180, 855	15, 680	196, 535	4	68	17	85	6	91
Tennessee	2, 117, 025	501, 217	2, 618, 242	151, 597	2, 769, 839	86	1, 091	280	1, 371	78	1, 449
Texas	1, 218, 494	1, 090, 291	2, 308, 785	122, 342	2, 431, 127	36	495	395	890	54	944
Utah	129, 201	30, 195	159, 396	12, 226	171, 622	3	73	16	89	7	96
Virginia	1, 205, 411	460, 524	1, 665, 935	135, 975	1, 801, 910	37	589	225	814	65	879
West Virginia	669, 750	146, 453	816, 203	49, 303	865, 506	15	332	72	404	24	428
Wisconsin	1, 619, 806	397, 267	2, 017, 073	104, 891	2, 121, 964	171	1, 120	255	1, 375	57	1, 432
Wyoming	121, 762	28, 933	150, 695	2, 400	153, 095	4	67	15	82	1	83
Other States [1]	447, 222	302, 903	750, 125	23, 455	773, 580	27	206	132	338	11	349
Total	39, 925, 548	15, 711, 396	55, 636, 944	3, 753, 482	59, 390, 426	1, 629	20, 950	7, 742	28, 692	1, 749	30, 441

See footnotes at end of table, p. 32.

TABLE 14.—*Injury and employment data on limestone operations in the United States, by States, 1957*—Continued

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
Alabama	110, 825	58, 980	169, 805	5, 483	175, 288	250	255	252	261	252
Arkansas	14, 197	2, 735	16, 932	775	17, 707	258	249	257	258	257
California	44, 612	26, 975	71, 587	3, 764	75, 351	262	262	262	269	263
Colorado	20, 803	8, 662	29, 465	912	30, 377	217	222	218	304	220
Florida	290, 520	73, 101	363, 621	13, 326	376, 947	258	270	261	272	261
Georgia	26, 810	20, 402	47, 212	1, 212	48, 424	271	287	278	303	278
Illinois	438, 499	114, 394	552, 893	51, 496	604, 389	237	244	238	267	242
Indiana	365, 186	351, 957	717, 143	54, 380	771, 523	235	246	241	263	242
Iowa	217, 788	43, 845	261, 633	14, 659	276, 292	206	193	204	248	206
Kansas	113, 040	44, 357	157, 397	9, 739	167, 136	174	184	177	243	180
Kentucky	299, 516	55, 870	355, 386	24, 009	379, 395	219	211	218	261	220
Maryland	23, 114	862	23, 976	1, 440	25, 416	201	172	200	240	202
Michigan	320, 740	131, 669	452, 409	26, 602	479, 011	231	235	232	271	234
Minnesota	49, 701	37, 154	86, 855	5, 740	92, 595	170	219	188	250	191
Missouri	280, 169	64, 627	344, 796	33, 731	378, 527	170	200	175	250	180
Nebraska	44, 376	16, 548	60, 924	4, 688	65, 612	215	190	208	247	210
New York	310, 810	109, 335	420, 145	30, 421	450, 566	230	237	232	267	234
North Carolina	31, 584	31, 217	62, 801	3, 423	66, 224	231	236	233	263	235
Ohio	297, 896	117, 275	415, 171	37, 654	452, 825	272	283	275	279	275
Oklahoma	64, 183	12, 083	76, 266	3, 104	79, 370	235	247	237	282	238
Pennsylvania	459, 448	196, 212	655, 660	54, 529	710, 189	236	253	241	263	242
South Dakota	17, 650	4, 425	22, 075	1, 810	23, 885	260	260	260	302	262
Tennessee	253, 663	58, 509	312, 172	22, 483	334, 655	233	209	228	288	231
Texas	150, 475	116, 711	267, 186	15, 166	282, 352	304	295	300	281	299
Utah	15, 768	3, 687	19, 455	1, 528	20, 983	216	230	219	218	219
Virginia	144, 933	54, 206	199, 139	16, 906	216, 045	246	241	245	260	246
West Virginia	81, 377	17, 653	99, 030	6, 057	105, 087	245	245	245	252	246
Wisconsin	185, 990	45, 450	231, 440	13, 741	245, 181	166	178	168	241	171
Wyoming	14, 995	3, 605	18, 600	300	18, 900	224	240	227	300	228
Other States [1]	54, 139	37, 905	92, 044	3, 130	95, 174	263	287	272	285	273
Total	4, 742, 807	1, 860, 411	6, 603, 218	462, 208	7, 065, 426	226	240	230	264	232

[1] Includes Arizona, Connecticut, Idaho, Louisiana, Maine, Massachusetts, Mississippi, Montana, Nevada, New Jersey, New Mexico, Oregon, Rhode Island, South Carolina, Vermont, and Washington.

[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 15.—*Injury and employment data on limestone (chief product, lime) operations in the United States, by States, 1957*

State	Injuries								Frequency rates per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
Alabama	------	------	------	------	11	11	22	22	------	------	------	------	38.68	19.26	25.71	24.90
Arizona	------	------	------	------	4	3	7	7	------	------	------	------	81.22	32.75	49.70	43.20
California	------	------	------	------	17	11	28	28	------	------	------	------	99.61	12.61	26.84	25.90
Illinois	------	------	------	------	------	8	8	8	------	------	------	------	------	16.84	16.06	14.62
Michigan	------	------	------	------	------	6	6	6	------	------	------	------	------	32.87	32.87	32.32
Missouri	------	------	------	------	7	15	22	24	------	------	------	------	12.59	8.87	9.79	9.62
Nevada	------	------	------	------	3	9	12	12	------	------	------	------	31.41	72.42	54.60	49.67
Ohio	------	------	------	------	43	44	87	87	------	------	------	------	34.31	12.40	18.12	17.22
Pennsylvania	------	------	------	------	33	37	70	70	------	------	------	------	21.83	17.36	19.22	17.32
Tennessee	------	------	------	------	18	1	19	19	------	------	------	------	216.55	5.09	67.97	65.81
Texas	------	------	------	------	23	17	40	40	------	------	------	------	116.36	25.63	46.46	43.60
Vermont	------	------	------	------	------	8	8	8	------	------	------	------	------	106.59	68.84	40.04
Virginia	------	------	------	------	21	13	34	34	------	------	------	------	37.21	19.00	27.23	25.22
West Virginia	------	1	1	1	------	------	------	------	------	2.23	1.43	1.32	------	------	------	------
Wisconsin	------	------	------	------	2	18	20	20	------	------	------	------	28.31	68.21	59.78	55.34
Other States [1]	------	------	------	------	18	46	64	64	------	------	------	------	38.79	47.22	44.50	41.56
Total	------	1	1	1	200	247	447	449	------	.08	.05	.05	35.41	18.95	23.93	22.34

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
Alabama	284,420	571,204	855,624	27,880	883,504	9	126	237	363	13	376
Arizona	49,251	91,608	140,859	21,184	162,043	3	24	39	63	9	72
California	170,672	872,665	1,043,337	37,720	1,081,057	7	78	384	462	16	478
Illinois	23,155	474,936	498,091	48,754	546,845	6	12	170	182	20	202
Michigan	------	182,551	182,551	3,120	185,671	3	------	67	67	2	69
Missouri	555,904	1,691,496	2,247,400	246,564	2,493,964	10	274	775	1,049	112	1,161
Nevada	95,512	124,280	219,792	21,800	241,592	3	46	45	91	10	101
Ohio	1,253,199	3,548,516	4,801,715	252,001	5,053,716	17	568	1,535	2,103	113	2,216
Pennsylvania	1,511,619	2,130,995	3,642,614	398,510	4,041,124	28	687	953	1,640	198	1,838
Tennessee	83,120	196,432	279,552	9,136	288,688	4	38	75	113	4	117
Texas	197,665	663,318	860,983	56,378	917,361	8	81	251	332	24	356
Vermont	75,057	116,214	191,271	8,536	199,807	3	31	50	81	4	85
Virginia	564,345	684,056	1,248,401	100,000	1,348,401	12	252	312	564	48	612
West Virginia	250,205	447,485	697,690	59,948	757,638	4	128	187	315	26	341
Wisconsin	70,657	263,899	334,556	26,832	361,388	8	31	111	142	13	155
Other States [1]	464,016	974,214	1,438,230	101,558	1,539,788	18	221	432	653	61	714
Total	5,648,797	13,033,869	18,682,666	1,419,921	20,102,587	143	2,597	5,623	8,220	673	8,893

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
Alabama	35,780	71,173	106,953	3,557	110,510	284	300	295	274	294
Arizona	6,156	11,451	17,607	2,648	20,255	257	294	279	294	281
California	21,334	109,083	130,417	4,715	135,132	274	284	282	295	283
Illinois	2,894	59,369	62,263	6,094	68,357	241	349	342	305	338
Michigan	------	22,423	22,423	390	22,813	------	335	335	195	331
Missouri	70,388	212,262	282,650	30,821	313,471	257	274	269	275	270
Nevada	11,939	15,535	27,474	2,725	30,199	260	345	302	273	299
Ohio	157,487	447,412	604,899	31,502	636,401	277	291	288	279	288
Pennsylvania	184,787	266,200	450,987	51,871	502,858	269	279	275	262	274
Tennessee	10,390	24,554	34,944	1,142	36,086	273	327	309	286	308
Texas	24,708	82,914	107,622	7,047	114,669	305	330	324	294	322
Vermont	9,335	14,529	23,864	1,067	24,931	301	291	295	267	293
Virginia	67,655	90,273	157,928	13,735	171,663	268	289	280	286	280
West Virginia	28,897	54,539	83,436	7,566	91,002	226	292	265	291	267
Wisconsin	8,707	32,705	41,412	3,428	44,840	281	295	292	264	289
Other States [1]	56,538	120,500	177,038	13,183	190,221	256	279	271	216	266
Total	696,995	1,634,922	2,331,917	181,491	2,513,408	268	291	284	270	283

[1] Includes Arkansas, Connecticut, Florida, Iowa, Louisiana, Maryland, Massachusetts, Minnesota, New Mexico, New York, Oklahoma, Oregon, South Dakota, and Utah.

[2] Includes a small number of mills or other plants not operated on connection with quarries.

TABLE 16.—*Injury and employment data on marble operations in the United States, by States, 1957*

State	Injuries								Frequency rates per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
Alabama	......	......	......	......	5	3	8	8	......	......	......	......	18.25	8.98	13.16	12.28
Georgia	......	1	1	1	7	8	15	15	......	0.78	0.59	0.58	17.04	6.28	8.90	8.73
Missouri	......	......	......	......	3	27	30	30	......	......	......	......	20.23	30.88	29.33	27.13
Tennessee	......	......	......	......	31	22	53	53	......	......	......	......	53.38	27.79	38.62	36.51
Vermont	......	......	......	......	37	36	73	73	......	......	......	......	72.04	28.00	40.58	40.24
Other States [1]	......	......	......	......	6	3	9	9	......	......	......	......	56.67	19.11	34.23	32.35
Total	......	1	1	1	89	99	188	188	......	.21	.15	.14	43.77	20.99	27.85	26.78

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
Alabama	273,900	334,090	607,990	43,600	651,590	3	132	156	288	21	309
Georgia	410,897	1,274,244	1,685,141	32,504	1,717,645	8	198	601	799	15	814
Missouri	148,304	874,458	1,022,762	83,200	1,105,962	6	59	324	383	37	420
Tennessee	580,763	791,673	1,372,436	79,135	1,451,571	16	285	391	676	38	714
Vermont	513,603	1,285,505	1,799,108	15,000	1,814,108	18	259	589	848	8	856
Other States [1]	105,876	156,975	262,851	15,392	278,243	26	78	88	166	11	177
Total	2,033,343	4,716,945	6,750,288	268,831	7,019,119	77	1,011	2,149	3,160	130	3,290

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
Alabama	32,175	39,355	71,530	5,730	77,260	244	252	248	273	250
Georgia	50,930	158,513	209,443	4,063	213,506	257	264	262	271	262
Missouri	16,713	96,966	113,679	10,400	124,079	283	299	297	281	295
Tennessee	66,396	96,771	163,167	9,992	173,159	233	247	241	263	243
Vermont	63,726	159,372	223,098	2,000	225,098	246	271	263	250	263
Other States [1]	13,554	19,622	33,176	1,924	35,100	174	223	200	175	198
Total	243,494	570,599	814,093	34,109	848,202	241	266	258	262	258

[1] Includes Alaska, Arizona, California, Colorado, New Jersey, New York, North Carolina, Texas, and Washington.
[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 17.—*Injury and employment data on sandstone operations in the United States, by States, 1957*

State	Injuries								Frequency rate per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
Arkansas	------	------	------	------	3	------	3	3	------	------	------	------	22.96	------	19.55	18.76
California	------	------	------	------	22	3	25	25	------	------	------	------	65.16	26.43	55.42	49.88
Colorado	------	------	------	------	25	4	29	29	------	------	------	------	206.83	76.92	167.75	158.24
Georgia	------	------	------	------	1	2	3	3	------	------	------	------	17.53	21.42	19.94	19.94
Indiana	------	------	------	------	6	9	15	15	------	------	------	------	85.85	55.65	64.76	62.10
Missouri	------	------	------	------	2	------	2	2	------	------	------	------	18.33	------	16.46	16.46
New Mexico	------	------	------	------	7	------	7	7	------	------	------	------	203.73	------	135.68	135.68
New York	------	1	1	1	7	7	14	14	------	8.72	4.77	4.47	73.76	61.01	66.78	62.62
Ohio	------	------	------	------	24	21	45	45	------	------	------	------	54.85	31.97	41.12	38.68
Pennsylvania	------	------	------	------	35	6	41	41	------	------	------	------	83.32	40.32	72.07	68.77
South Dakota	------	------	------	------	------	1	1	1	------	------	------	------	------	40.72	6.24	5.98
Tennessee	------	------	------	------	14	9	23	23	------	------	------	------	33.96	47.38	38.19	37.06
Washington	------	------	------	------	2	1	3	3	------	------	------	------	42.73	25.09	34.61	33.86
Wisconsin	------	------	------	------	6	------	6	6	------	------	------	------	52.43	------	29.93	28.67
Other States [1]	------	------	------	------	25	17	42	42	------	------	------	------	54.78	61.30	57.24	53.65
Total	------	1	1	1	179	80	259	259	------	.50	.20	.19	60.12	39.78	51.92	49.23

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
Arkansas	130,674	22,780	153,454	6,432	159,886	14	150	23	173	4	177
California	337,625	113,513	451,138	50,080	501,218	17	182	57	239	25	264
Colorado	120,871	52,002	172,873	10,398	183,271	30	69	25	94	5	99
Georgia	57,060	93,370	150,430	------	150,430	3	27	43	70	------	70
Indiana	69,890	161,720	231,610	9,920	241,530	6	36	81	117	5	122
Missouri	109,131	12,376	121,507	------	121,507	3	57	6	63	------	63
New Mexico	34,360	17,232	51,592	------	51,592	6	27	19	46	------	46
New York	94,908	114,738	209,646	13,930	223,576	9	58	60	118	7	125
Ohio	437,558	656,786	1,094,344	69,074	1,163,418	24	305	359	664	34	698
Pennsylvania	420,051	148,826	568,877	27,340	596,217	36	296	81	377	18	395
South Dakota	135,600	24,560	160,160	7,200	167,360	3	57	10	67	3	70
Tennessee	412,300	189,960	602,260	18,400	620,660	9	218	101	319	9	328
Washington	46,810	39,864	86,674	1,936	88,610	4	26	24	50	1	51
Wisconsin	114,442	86,048	200,490	8,816	209,306	14	71	43	114	4	118
Other States [1]	456,344	277,347	733,691	49,205	782,896	74	302	167	469	24	493
Total	2,977,624	2,011,122	4,988,746	272,731	5,261,477	252	1,881	1,099	2,980	139	3,119

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
Arkansas	16,237	2,622	18,859	737	19,596	108	114	109	184	111
California	39,807	13,955	53,762	6,260	60,022	219	245	225	250	227
Colorado	15,108	6,500	21,608	1,316	22,924	219	260	230	263	232
Georgia	5,906	9,497	15,403	------	15,403	219	221	220	------	220
Indiana	8,590	20,215	28,805	1,240	30,045	239	250	246	248	246
Missouri	13,642	1,547	15,189	------	15,189	239	258	241	------	241
New Mexico	4,295	2,154	6,449	------	6,449	159	113	140	------	140
New York	11,626	16,636	28,262	1,710	29,972	200	277	240	244	240
Ohio	54,576	83,806	138,382	8,634	147,016	179	233	208	254	211
Pennsylvania	51,192	17,605	68,797	3,723	72,520	173	217	182	207	184
South Dakota	15,600	2,920	18,520	900	19,420	274	292	276	300	277
Tennessee	51,540	23,745	75,285	2,300	77,585	236	235	236	256	237
Washington	5,851	4,983	10,834	242	11,076	225	208	217	242	217
Wisconsin	14,011	10,721	24,732	1,067	25,799	197	249	217	267	219
Other States [1]	54,628	33,350	87,978	5,662	93,640	181	200	188	236	190
Total	362,609	250,256	612,865	33,791	646,656	193	228	206	243	207

[1] Includes Alabama, Arizona, Connecticut, Idaho, Illinois, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Jersey, North Carolina, Oklahoma, Oregon, South Carolina, Texas, Utah, Virginia, and West Virginia.

[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 18.—*Injury and employment data on slate operations in the United States, by States, 1957*

State	Injuries								Frequency rate per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
Georgia	------	------	------	------	3	------	3	3	------	------	------	------	60.56	------	18.51	17.29
Maine	------	------	------	------	2	4	6	6	------	------	------	------	25.40	40.77	33.93	32.80
New York	------	------	------	------	7	------	7	7	------	------	------	------	81.22	------	66.58	61.93
Pennsylvania	1	------	1	1	83	20	103	104	1.63	------	0.72	0.68	135.15	25.53	73.70	70.50
Vermont	------	------	------	------	26	------	26	26	------	------	------	------	61.28	------	56.77	55.84
Virginia	------	------	------	------	8	6	14	14	------	------	------	------	73.05	18.23	31.92	31.26
Other States [1]	------	------	------	------	9	1	10	10	------	------	------	------	170.63	12.44	75.10	66.54
Total	1	------	1	1	138	31	169	170	.71	------	.35	.33	97.52	21.29	58.86	56.51

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
Georgia	49,536	112,528	162,064	11,480	173,544	3	28	58	86	5	91
Maine	78,736	98,100	176,836	6,072	182,908	4	38	50	88	3	91
New York	86,181	18,951	105,132	7,896	113,028	10	41	11	52	5	57
Pennsylvania	614,118	783,478	1,397,596	77,649	1,475,245	15	288	349	637	36	673
Vermont	424,256	33,696	457,952	7,661	465,613	16	216	17	233	4	237
Virginia	109,507	329,108	438,615	9,229	447,844	5	53	144	197	4	201
Other States [1]	52,745	80,415	133,160	17,136	150,296	6	23	41	64	9	73
Total	1,415,079	1,456,276	2,871,355	137,123	3,008,478	59	687	670	1,357	66	1,423

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
Georgia	6,192	14,066	20,258	1,435	21,693	221	243	236	287	238
Maine	9,842	10,900	20,742	759	21,501	259	218	236	253	236
New York	10,945	2,411	13,356	1,037	14,393	267	219	257	207	253
Pennsylvania	76,388	89,961	166,349	9,999	176,348	265	258	261	278	262
Vermont	53,022	4,212	57,234	1,137	58,371	245	248	246	284	246
Virginia	12,598	37,374	49,972	1,182	51,154	238	260	254	296	254
Other States [1]	6,593	10,052	16,645	2,142	18,787	244	272	260	238	257
Total	175,580	168,976	344,556	17,691	362,247	254	254	254	268	255

[1] Includes Arkansas, California, and North Carolina.

[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 19.—*Injury and employment data on traprock operations in the United States, by States, 1957*

State	Injuries								Frequency rate per million man-hours							
	Fatal				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
California	------	1	1	1	3	4	7	7	------	20.83	9.18	8.41	49.22	83.33	64.25	58.84
Connecticut	------	------	------	------	42	7	49	49	------	------	------	------	88.55	23.11	63.05	58.96
Idaho	------	------	------	------	1	------	1	1	------	------	------	------	34.59	------	12.58	12.20
Maryland	------	------	------	------	6	------	6	6	------	------	------	------	37.19	------	33.49	31.89
Massachusetts	1	------	1	1	31	2	33	33	3.39	------	1.97	1.85	105.08	9.36	64.86	61.13
Montana	------	------	------	------	3	------	3	3	------	------	------	------	54.55	------	43.88	42.74
New Jersey	------	1	1	1	64	9	73	73	------	3.68	1.14	1.04	105.85	33.11	83.29	75.96
New York	------	------	------	------	2	------	2	3	------	------	------	------	6.99	------	4.71	6.85
Oregon	------	------	------	------	21	1	22	22	------	------	------	------	135.52	6.49	71.21	68.64
Pennsylvania	1	------	1	1	12	5	17	17	1.49	------	1.10	1.04	17.91	21.18	18.76	17.64
Virginia	------	------	------	------	22	------	22	22	------	------	------	------	136.29	------	85.57	80.52
Washington	1	------	1	1	13	9	22	22	3.49	------	2.20	2.07	45.41	53.72	48.47	45.48
Other States [1]	1	------	1	1	15	5	20	20	5.61	------	2.61	2.41	84.12	24.40	52.19	48.14
Total	4	2	6	6	235	42	277	278	1.17	1.04	1.13	1.06	68.77	21.93	51.95	48.89

State	Man-hours worked					Active operations [2]	Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total		Quarry	Processing works	Total	Office-workers	Grand total
California	60,955	48,002	108,957	10,000	118,957	8	38	35	73	5	78
Connecticut	474,310	302,845	777,155	53,976	831,131	11	174	112	286	20	306
Idaho	28,906	50,574	79,480	2,456	81,936	13	43	57	100	1	101
Maryland	161,324	17,812	179,136	9,024	188,160	3	64	8	72	4	76
Massachusetts	295,014	213,788	508,802	30,992	539,794	9	128	121	249	14	263
Montana	55,000	13,375	68,375	1,820	70,195	5	40	12	52	2	54
New Jersey	604,614	271,802	876,416	84,588	961,004	11	264	139	403	39	442
New York	285,948	138,520	424,468	13,316	437,784	3	129	68	197	5	202
Oregon	154,961	153,966	308,927	11,592	320,519	56	172	137	309	9	318
Pennsylvania	669,985	236,105	906,090	57,848	963,938	12	289	94	383	24	407
Virginia	161,418	95,683	257,101	16,126	273,227	5	73	39	112	7	119
Washington	286,307	167,544	453,851	29,844	483,695	52	258	155	413	15	428
Other States [1]	178,312	204,882	383,194	32,222	415,416	19	108	126	234	16	250
Total	3,417,054	1,914,898	5,331,952	353,804	5,685,756	207	1,780	1,103	2,883	161	3,044

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
California	7,572	6,000	13,572	1,250	14,822	199	171	186	250	190
Connecticut	47,407	29,729	77,136	5,490	82,626	272	265	270	275	270
Idaho	3,092	5,451	8,543	307	8,850	72	96	85	307	88
Maryland	17,561	2,024	19,585	1,053	20,638	274	253	272	263	272
Massachusetts	34,712	26,214	60,926	3,874	64,800	271	217	245	277	246
Montana	6,334	1,571	7,905	260	8,165	158	131	152	130	151
New Jersey	68,677	31,637	100,314	10,285	110,599	260	228	249	264	250
New York	35,511	18,134	53,645	1,587	55,232	275	267	272	317	273
Oregon	18,931	19,027	37,958	1,479	39,437	110	139	123	164	124
Pennsylvania	79,181	29,060	108,241	7,126	115,367	274	309	283	297	283
Virginia	18,221	10,559	28,780	1,886	30,666	250	271	257	269	258
Washington	35,095	19,604	54,699	3,759	58,458	136	126	132	251	137
Other States [1]	22,593	26,057	48,650	5,019	53,669	209	207	208	314	215
Total	394,887	225,067	619,954	43,375	663,329	222	204	215	269	218

[1] Includes Alaska, Kansas, Maine, Minnesota, Missouri, North Carolina, Oklahoma, Texas, and Wisconsin.

[2] Includes a small number of mills or other plants not operated in connection with quarries.

TABLE 20.—*Injury and employment data on miscellaneous stone operations in the United States, by States, 1957*

State	Injuries								Frequency rate per million man-hours							
	Total				Nonfatal				Fatal				Nonfatal			
	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers	Quarry	Processing works	Total excluding office-workers	Total including office-workers
California	------	------	------	------	19	2	21	21	------	------	------	------	50.06	19.85	43.72	41.36
Pennsylvania	------	------	------	------	4	------	4	4	------	------	------	------	55.50	------	51.09	48.23
Utah	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Other States[1]	------	------	------	------	13	3	16	16	------	------	------	------	72.79	32.41	59.00	52.43
Total	------	------	------	------	36	5	41	41	------	------	------	------	34.17	20.12	31.49	29.84

State	Man-hours worked						Men at work				
	Quarry	Processing works	Total	Office-workers	Grand total	Active operations[2]	Quarry	Processing works	Total	Office-workers	Grand total
California	379,556	100,731	480,287	27,507	507,794	51	220	63	283	14	297
Pennsylvania	72,073	6,213	78,286	4,656	82,942	6	39	3	42	2	44
Utah	423,360	48,960	472,320	5,760	478,080	3	147	17	164	2	166
Other States[1]	178,601	92,566	271,167	34,000	305,167	11	107	54	161	16	177
Total	1,053,590	248,470	1,302,060	71,923	1,373,983	71	513	137	650	34	684

State	Man-days worked					Average days active				
	Quarry	Processing works	Total	Office-workers	Grand total	Quarry	Processing works	Total	Office-workers	Grand total
California	46,909	13,109	60,018	3,565	63,583	213	208	212	255	214
Pennsylvania	8,662	743	9,405	551	9,956	222	248	224	276	226
Utah	52,920	6,120	59,040	720	59,760	360	360	360	360	360
Other States[1]	21,521	11,513	33,034	4,500	37,534	201	213	205	281	212
Total	130,012	31,485	161,497	9,336	170,833	253	230	248	275	250

[1] Includes Alaska, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, Rhode Island, and Virginia.
[2] Includes a small number of mills or other plants not operated in connection with quarries.

SELECTED INJURY DATA

COMPARATIVE SEVERITY OF INJURIES

Injuries reported in the quarrying industries and their related plants are divided into four classes according to their severity: Fatal, permanent total, permanent partial, and temporary total.

The number of injuries in a single year for any one of the first three classes may be small. Therefore, a typical ratio of the frequency of injuries per million man-hours of exposure among the four classes may best be shown by combining the injuries for a number of years.

A 5-year period has been used for the comparisons in table 25. The distribution of injuries during the past 5 years is fairly typical, as it does not differ materially from injuries covering previous 5-year periods.

TABLE 21.—*Injuries at cement mills (including crusher and auxiliary works) in the United States, by cause and degree of injury, 1957*

	Haulage	Machinery	Handtools	Stepping on nail or sharp object	Electricity	Falls of persons	Falling objects (rocks, timbers, etc.)	Flying objects	Handling materials	Burns	Other causes	Total
Fatal	1	2			1	2	1		2		2	11
Permanent total												
Permanent partial	1	10				3			2		2	18
Temporary total	6	21	11	4	4	52	24	7	26	19	42	216
Total nonfatal	7	31	11	4	4	55	24	7	28	19	44	243

TABLE 22.—*Injury and employment data on work inside cement,[1] granite, limestone, limestone (chief product, lime), marble, sandstone, slate, traprock, and miscellaneous stone quarries, by employment groups, 1957*

Size of groups inside quarries	Active operations	Men at work	Man-days worked	Man-hours worked	Injuries		Frequency rate per million man-hours
					Fatal	Nonfatal	
	CEMENT QUARRIES						
1 to 4	14	35	8, 174	65, 378			
5 to 9	11	83	20, 911	169, 935			
10 to 24	83	1, 378	411, 180	2, 987, 636		22	7. 36
25 to 49	38	1, 113	294, 559	2, 372, 779	2	5	2. 95
50 to 99	10	722	187, 001	1, 496, 052	1	7	5. 35
Total	156	3, 331	921, 825	7, 091, 780	3	34	5. 22
	GRANITE QUARRIES						
1 to 4	101	246	43, 605	354, 031	1	20	59. 32
5 to 9	60	367	82, 192	688, 973	1	65	95. 79
10 to 24	64	917	198, 975	1, 647, 709		96	58. 26
25 to 49	28	969	224, 098	1, 818, 933	1	122	67. 62
50 to 99	9	578	138, 612	1, 180, 697		47	39. 81
100 to 149	2	225	58, 704	469, 631		1	2. 13
200 to 249	1	240	72, 490	724, 903	1	19	27. 59
Total	265	3, 542	818, 676	6, 884, 877	4	370	54. 32
	LIMESTONE QUARRIES						
1 to 4	464	1, 080	207, 520	1, 748, 312	3	110	64. 63
5 to 9	595	3, 024	587, 729	5, 021, 104	3	255	51. 38
10 to 24	373	4, 776	1, 075, 592	9, 146, 175	3	358	39. 47
25 to 49	113	3, 204	782, 440	6, 588, 385	1	278	42. 35
50 to 99	37	1, 919	452, 031	3, 817, 690	1	98	25. 93
100 to 149	8	835	206, 058	1, 608, 625	2	19	13. 05
150 to 199	1	170	43, 252	346, 016		2	5. 78
200 to 299	3	785	183, 378	1, 467, 032		19	12. 95
300 to 399	2	715	135, 825	1, 200, 000		68	56, 67
Total	1, 596	16, 508	3, 673, 825	30, 943, 339	13	1, 207	39. 43
	LIMESTONE (CHIEF PRODUCT, LIME) QUARRIES						
1 to 4	21	50	11, 961	95, 538		9	94. 20
5 to 9	25	162	40, 274	317, 883		17	53. 48
10 to 24	39	592	164, 529	1, 314, 256		55	41. 85
25 to 49	16	514	130, 861	1, 057, 379		32	30. 26
50 to 99	5	307	82, 954	664, 161		17	25. 60
100 to 149	3	377	100, 502	804, 021		7	8. 71
Total	109	2, 002	531, 081	4, 253, 238		137	32. 21

See footnote at end of table.

TABLE 22.—*Injury and employment data on work inside cement,*[1] *granite, limestone, limestone (chief product, lime), marble, sandstone, slate, traprock, and miscellaneous stone quarries, by employment groups, 1957*—Continued

Size of groups inside quarries	Active operations	Men at work	Man-days worked	Man-hours worked	Injuries		Frequency rate per million man-hours
					Fatal	Nonfatal	
	MARBLE QUARRIES						
1 to 4	17	49	6, 552	51, 287	--------	2	39. 00
5 to 9	8	53	9, 388	78, 951	--------	6	76. 00
10 to 24	22	273	66, 516	550, 584	--------	26	47. 22
25 to 49	8	202	51, 105	434, 579	--------	24	55. 23
50 to 99	3	200	50, 964	440, 860	--------	24	54. 44
100 to 149	1	118	30, 777	246, 213	--------	6	24. 37
Total	59	895	215, 302	1, 802, 474	--------	88	48. 82
	SANDSTONE QUARRIES						
1 to 4	128	237	40, 474	329, 367	--------	23	69. 83
5 to 9	64	374	69, 565	569, 528	--------	47	82. 52
10 to 24	36	468	95, 640	786, 841	--------	57	72. 44
25 to 49	9	255	46, 711	390, 516	--------	17	43. 53
50 to 99	3	193	34, 336	274, 687	--------	11	40. 05
Total	240	1, 527	286, 726	2, 350, 939	--------	155	65. 93
	SLATE QUARRIES						
1 to 4	16	36	7, 521	58, 791	--------	9	153. 08
5 to 9	12	75	20, 340	164, 711	1	9	60. 71
10 to 24	24	284	72, 549	588, 284	--------	36	61. 19
25 to 49	4	139	35, 215	281, 720	--------	17	60. 34
Total	56	534	135, 625	1, 093, 506	1	71	65. 84
	TRAPROCK QUARRIES						
1 to 4	89	206	29, 276	240, 689	3	15	74. 79
5 to 9	67	357	53, 363	457, 857	--------	56	122. 31
10 to 24	34	488	120, 540	1, 022, 923	1	72	71. 36
25 to 49	5	149	42, 515	403, 356	--------	12	29. 75
50 to 99	3	221	57, 478	500, 284	--------	7	13. 99
Total	198	1, 421	303, 172	2, 625, 109	4	162	63. 24
	MISCELLANEOUS STONE QUARRIES						
1 to 4	44	84	14, 495	112, 634	--------	5	44. 39
5 to 9	14	84	16, 995	139, 165	--------	1	7. 19
10 to 24	8	103	22, 564	188, 449	--------	11	58. 37
25 to 49	4	173	59, 235	473, 880	--------	8	16. 88
Total	70	444	113, 289	914, 128	--------	25	27. 35

[1] Includes limestone or other stone used in manufacturing cement.

TABLE 23.—*Injury and employment data on work inside all quarries in the United States, by employment groups, 1957*

Size of groups	Active operations	Men at work	Man-days worked	Man-hours worked	Injuries		Frequency rates per million man-hours
					Fatal	Nonfatal	
1 to 4	894	2, 023	369, 578	3, 056, 027	7	193	65. 44
5 to 9	856	4, 579	900, 757	7, 608, 107	5	456	60. 59
10 to 24	683	9, 279	2, 228, 085	18, 232, 857	4	733	40. 42
25 to 49	225	6, 718	1, 666, 739	13, 821, 527	4	515	37. 55
50 to 99	70	4, 140	1, 003, 376	8, 374, 431	2	211	25. 43
100 to 149	14	1, 555	396, 041	3, 128, 490	2	33	11. 19
150 to 199	1	170	43, 252	346, 016	--------	2	5. 78
200 to 299	4	1, 025	255, 868	2, 191, 935	1	38	17. 79
300 to 399	2	715	135, 825	1, 200, 000	--------	68	56. 67
Total	2, 749	30, 204	6, 999, 521	57, 959, 390	25	2, 249	39. 23

TABLE 24.—*Injury and employment data on work inside stone quarries in the United States, by kind of stone and length of shift, 1957*

Kind of stone and length of shift	Active operations	Men at work	Man-days worked	Man-hours worked	Injuries		Frequency rates per million man-hours	
					Fatal	Nonfatal	Fatal	Nonfatal
Cement rock: [1]								
8 hours	152	3, 258	903, 240	6, 916, 330	3	32	0. 43	4. 63
9 hours	2	37	9, 522	85, 692	------	2	------	23. 34
All other and not stated [2] [3]	2	36	9, 063	89, 758	------	------	------	--------
Total	156	3, 331	921, 825	7, 091, 780	3	34	. 42	4. 79
Granite:								
7 hours	6	142	33, 815	237, 112	------	2	------	8. 43
8 hours	200	2, 368	536, 580	4, 324, 006	1	251	. 23	58. 05
9 hours	40	609	141, 413	1, 259, 856	2	80	1. 59	63. 50
All other and not stated [2]	19	423	106, 868	1, 063, 903	1	37	. 94	34. 78
Total	265	3, 542	818, 676	6, 884, 877	4	370	. 58	53. 74
Limestone:								
6 hours	3	87	10, 922	65, 532	------	------	------	--------
7 hours	3	38	6, 166	44, 764	------	1	------	22. 34
8 hours	914	10, 339	2, 344, 454	18, 777, 613	9	731	. 48	38. 93
9 hours	426	3, 779	856, 010	7, 550, 983	3	302	. 40	39. 99
All other and not stated	250	2, 265	456, 273	4, 504, 447	1	173	. 22	38. 41
Total	1, 596	16, 508	3, 673, 825	30, 943, 339	13	1, 207	. 42	39. 01
Limestone (chief product, lime):								
7 hours	5	46	13, 796	98, 873	------	------	------	--------
8 hours	96	1, 838	486. 655	3, 894, 130	------	134	------	34. 41
9 hours	7	110	28, 230	248, 235	------	1	------	4. 03
All other and not stated [3]	1	8	2, 400	12, 000	------	2	------	166. 67
Total	109	2, 002	531, 081	4, 253, 238	------	137	------	32. 21
Marble:								
6 hours	1	8	1, 280	7, 680	------	------	------	--------
7 hours	1	91	24, 206	200, 032	------	14	------	69. 99
8 hours	38	478	114, 836	922, 070	------	52	------	56. 39
9 hours	18	292	67, 440	601, 062	------	21	------	34. 94
All other and not stated	1	26	7, 540	71, 630	------	1	------	13. 96
Total	59	895	215, 302	1, 802, 474	------	88	------	48. 82

See footnotes at end of table.

TABLE 24.—*Injury and employment data on work inside stone quarries in the United States, by kind of stone and length of shift, 1957*—Continued

Kind of stone and length of shift	Active operations	Men at work	Man-days worked	Man-hours worked	Injuries		Frequency rates per million man-hours	
					Fatal	Nonfatal	Fatal	Nonfatal
Sandstone:								
6 hours	3	6	156	936	------	------	------	--------
7 hours	2	10	1, 102	8, 075	------	------	------	--------
8 hours	206	1, 320	241, 364	1, 930, 745	------	138	------	71. 48
9 hours	15	94	21, 653	192, 838	------	8	------	41. 49
All other and not stated	14	97	22, 451	218, 345	------	9	------	41. 22
Total	240	1, 527	286, 726	2, 350, 939	------	155	------	65. 93
Slate:								
6 hours	1	1	140	840	------	------	------	--------
7 hours	2	8	2, 160	15, 756	------	------	------	--------
8 hours	50	486	123, 227	988, 485	1	71	1. 01	71. 83
9 hours	2	33	8, 370	71, 145	------	------	------	--------
All other and not stated	1	6	1, 728	17, 280	------	------	------	--------
Total	56	534	135, 625	1, 093, 506	1	71	. 91	64. 93
Traprock:								
7 hours	2	13	3, 027	21, 188	------	------	------	--------
8 hours	134	740	150, 998	1, 207, 401	4	73	3. 31	60. 46
9 hours	42	492	111, 189	1, 001, 862	------	54	------	53. 90
All other and not stated [2]	20	176	37, 958	394, 658	------	35	------	88. 68
Total	198	1, 421	303, 172	2, 625, 109	4	162	1. 52	61. 71
Miscellaneous stone:								
7 hours	1	2	50	350	------	------	------	--------
8 hours	55	362	95, 044	760, 410	------	19	------	24. 99
9 hours	7	67	15, 035	131, 518	------	2	------	15. 21
All other and not stated [3]	7	13	3, 160	21, 850	------	4	------	183. 07
Total	70	444	113, 289	914, 128	------	25	------	27. 35

[1] Includes limestone and other stone used in manufacturing cement.
[2] No quarries reported for 6-hour group.
[3] No quarries reported for 7-hour group.

TABLE 25.—*Number of injuries and injury rates per million man-hours at all stone quarries in the United States, by 5-year periods, 1943-57*

Degree of injury	Total 1943-47	Total 1948-52	1953	1954	Excluding officeworkers				Including officeworkers			
					1955	1956	1957	Total 1953-1957	1955	1956	1957	Total 1953-1957
Fatal	336	326	43	34	53	50	53	233	54	50	53	234
Permanent total [1]	28	24	8	7	7	8	5	35	7	8	5	35
Permanent partial [1]	666	810	139	136	165	135	144	719	165	136	145	721
Temporary total [1]	23, 704	23, 196	4, 303	3, 691	3, 639	3, 611	4, 061	19, 305	3, 647	3, 614	4, 074	19, 329
Total	24, 734	24, 356	4, 493	3, 868	3, 864	3, 804	4, 263	20, 292	3, 873	3, 808	4, 277	20, 319
	INJURY FREQUENCY PER MILLION MAN-HOURS											
Fatal	0. 45	0. 35	0. 23	0. 19	0. 30	0. 28	0. 29	0. 26	0. 29	0. 26	0. 27	0. 25
Permanent total [1]	. 04	. 03	. 04	. 04	. 04	. 04	. 03	. 04	. 04	. 04	. 03	. 04
Permanent partial [1]	. 90	. 87	. 73	. 77	. 94	. 76	. 79	. 80	. 89	. 72	. 75	. 77
Temporary total [1]	31. 94	24. 98	22. 67	20. 99	20. 70	20. 25	22. 14	21. 38	19. 63	19. 13	20. 95	20. 68
Total	33. 32	26. 23	23. 68	22. 00	21. 98	21. 34	23. 25	22. 47	20. 85	20. 15	22. 00	21. 74
Number of employees per year	66, 409	82, 393	83, 641	78, 910	78, 238	80, 093	84, 126	81, 002	82, 935	85, 033	89, 318	83, 071

[1] See definitions in footnotes of table 3, p. 8.

DIMENSION-STONE AND NONDIMENSION-STONE QUARRIES

Reports received from operators of stone quarries and mines, in response to the Bureau of Mines survey, state the use for which the stone is produced. From this data the reports are classified into three groups: (1) Nondimension stone, which includes all stone used in manufacturing cement and lime, for agricultural purposes, roadbuilding, or any purpose where crushed stone is used; (2) dimension stone, which includes all stone, cut or shaped, for building purposes, and for monuments; and (3) all other and not stated, which includes the stone that operators do not classify as having any definite use.

The quarrying industry employed 84,126 men in 1957. Of this total 85 percent worked at quarries and plants producing nondimension stone, 11 percent in the dimension-stone industry, and the remaining 4 percent of the men worked in quarries and plants that failed to state the use for which the stone was quarried. The overall safety record in the nondimension-stone group was not as favorable in 1957 as in 1956. Four less fatalities were reported in 1957; however, nonfatal injuries increased, causing the combined fatal and nonfatal injury-frequency rate to rise to 19.37 from 17.24—an increase of 12 percent. The main causes of injuries in the nondimension-stone industry were machinery, handling materials, haulage, and falls of persons.

TABLE 26.—*Dimension-stone and nondimension-stone quarries in the United States: Injuries, injury rates, and employment data, by kind of stone and work location, 1957*

Kind of stone	Fatal injuries								Nonfatal injuries								Men at work				
	Quarry		Processing works		Total excluding office-workers		Total including office-workers		Quarry		Processing works		Total excluding office-workers		Total including office-workers		Quarry	Processing works	Total	Office workers	Grand total
	Number	Per million man-hours	Number	Per million man-hours	Number	Per million man-hours	Number	Per million man-hours	Number	Per million man-hours	Number	Per million man-hours	Number	Per million man-hours	Number	Per million man-hours					
Dimension stone:																					
Granite	2	0.79	1	0.41	3	0.61	3	0.57	195	77.32	123	50.80	318	64.33	321	61.16	1,315	1,207	2,522	149	2,671
Limestone	1	.46	----	-----	1	.19	1	.18	82	37.47	91	29.57	173	32.85	173	30.69	1,240	1,532	2,772	183	2,955
Marble	----	-----	1	.52	1	.31	1	.31	72	57.74	37	19.10	109	34.23	109	33.25	609	955	1,564	46	1,610
Sandstone	----	-----	1	.86	1	.44	1	.42	96	86.20	51	43.86	147	64.58	147	61.46	754	621	1,375	56	1,431
Slate	1	1.03	----	-----	1	.49	1	.47	115	117.95	20	19.00	135	66.57	136	64.56	492	484	976	39	1,015
Traprock	----	-----	----	-----	----	-----	----	-----	2	390.63	------	------	2	170.43	2	159.96	4	7	11	2	13
Miscellaneous stone	----	-----	----	-----	----	-----	----	-----	1	9.56	3	44.14	4	23.19	4	21.13	57	34	91	8	99
Total	4	.49	3	.31	7	.39	7	.37	563	69.03	325	33.42	888	49.66	892	47.29	4,471	4,840	9,311	483	9,794
Nondimension stone:																					
Cement [1]	3	.36	11	.17	14	.19	14	.18	43	5.18	234	3.57	277	3.75	277	3.75	3,882	25,285	29,167	1,837	31,004
Granite	3	.53	----	-----	3	.42	3	.39	223	39.32	21	13.81	244	33.93	244	31.83	2,880	790	3,670	231	3,901
Limestone	16	.45	4	.33	20	.42	20	.39	1,299	36.25	295	24.38	1,594	33.26	1,601	31.25	18,386	5,939	24,325	1,532	25,857
Limestone (chief product, lime)	----	-----	1	.08	1	.05	1	.05	200	35.41	247	18.95	447	23.93	449	22.34	2,597	5,623	8,220	673	8,893
Marble	----	-----	----	-----	----	-----	----	-----	5	18.08	34	23.32	39	22.48	39	21.95	162	662	824	23	847
Sandstone	----	-----	----	-----	----	-----	----	-----	73	45.23	27	39.12	100	43.40	100	40.65	982	400	1,382	81	1,463
Slate	----	-----	----	-----	----	-----	----	-----	14	34.85	11	28.54	25	31.76	25	29.92	179	179	358	22	380
Traprock	4	1.24	2	1.11	6	1.19	6	1.11	229	70.84	39	21.59	268	53.18	269	49.97	1,611	1,023	2,634	154	2,788
Miscellaneous stone	----	-----	----	-----	----	-----	----	-----	35	37.05	1	5.71	36	32.15	36	30.64	453	100	553	26	579
Total	26	.42	18	.19	44	.28	44	.26	2,121	34.25	909	9.39	3,030	19.09	3,040	18.04	31,132	40,001	71,133	4,579	75,712
All other and not stated:																					
Granite	1	6.02	1	.63	2	1.14	2	1.11	29	174.48	1	.63	30	17.09	30	16.66	103	722	825	23	848
Limestone	----	-----	----	-----	----	-----	----	-----	157	82.40	36	67.19	193	79.06	193	76.73	1,324	271	1,595	34	1,629
Marble	----	-----	----	-----	----	-----	----	-----	12	23.54	28	21.19	40	21.84	40	20.37	240	532	772	61	833
Sandstone	----	-----	----	-----	----	-----	----	-----	10	39.98	2	12.64	12	29.39	12	29.29	145	78	223	2	225
Slate	----	-----	----	-----	----	-----	----	-----	9	234.38	------	------	9	159.57	9	135.54	16	7	23	5	28
Traprock	----	-----	----	-----	----	-----	----	-----	4	22.32	3	29.49	7	24.91	7	24.11	165	73	238	5	243
Miscellaneous stone	----	-----	----	-----	----	-----	----	-----	------	------	1	186.57	1	103.31	1	103.31	3	3	6	------	6
Total	1	.33	1	.27	2	.29	2	.28	221	72.38	71	19.04	292	43.05	292	41.38	1,996	1,686	3,682	130	3,812
Grand total	31	.42	22	.20	53	.29	53	.27	2,905	39.72	1,305	11.84	4,210	22.96	4,224	21.72	37,599	46,527	84,126	5,192	89,318

See footnote at end of table.

TABLE 26.—*Dimension-stone and nondimension-stone quarries and mines in the United States: Injuries, injury rates, and employment data, by kind of stone and work location, 1957*—Continued

Kind of stone	Man-hours worked					Man-days worked					Average days active				
	Quarry	Processing works	Total	Office workers	Grand total	Quarry	Processing works	Total	Office workers	Grand total	Quarry	Processing works	Total	Office workers	Grand total
Dimension stone:															
Granite	2, 521, 846	2, 421, 035	4, 942, 881	305, 361	5, 248, 242	308, 401	300, 947	609, 348	38, 201	647, 549	235	249	242	256	242
Limestone	2, 188, 463	3, 077, 551	5, 266, 014	370, 338	5, 636, 352	270, 976	380, 013	650, 989	45, 971	696, 960	219	248	235	251	236
Marble	1, 247, 046	1, 937, 448	3, 184, 494	93, 495	3, 277, 989	151, 896	240, 723	392, 619	11, 912	404, 531	249	252	251	259	251
Sandstone	1, 113, 675	1, 162, 663	2, 276, 338	115, 343	2, 391, 681	138, 566	149, 312	287, 878	14, 387	302, 265	184	240	209	257	211
Slate	975, 010	1, 052, 885	2, 027, 895	78, 512	2, 106, 407	121, 078	120, 736	241, 814	10, 339	252, 153	246	249	248	265	248
Traprock	5, 120	6, 615	11, 735	768	12, 503	640	827	1, 467	96	1, 563	160	118	133	48	120
Miscellaneous stone	104, 557	67, 960	172, 517	16, 800	189, 317	12, 946	8, 495	21, 441	2, 100	23, 541	227	250	236	263	238
Total	8, 155, 717	9, 726, 157	17, 881, 874	980, 617	18, 862, 491	1, 004, 503	1, 201, 053	2, 205, 556	123, 006	2, 328, 562	225	248	237	255	238
Nondimension stone:															
Cement [1]	8, 305, 514	65, 634, 449	73, 939, 963	3, 983, 963	77, 923, 926	1, 073, 508	8, 180, 447	9, 253, 955	502, 246	9, 756, 201	277	324	317	273	315
Granite	5, 670, 964	1, 520, 586	7, 191, 550	473, 473	7, 665, 023	668, 267	178, 805	847, 072	57, 593	904, 665	232	226	231	249	232
Limestone	35, 831, 644	12, 098, 078	47, 929, 722	3, 309, 123	51, 238, 845	4, 241, 884	1, 414, 574	5, 656, 458	407, 035	6, 063, 493	231	238	233	266	235
Limestone (chief product, lime)	5, 648, 797	13, 033, 869	18, 682, 666	1, 419, 921	20, 102, 587	696, 995	1, 634, 922	2, 331, 917	181, 491	2, 513, 408	268	291	284	270	283
Marble	276, 555	1, 458, 155	1, 734, 710	42, 296	1, 777, 006	34, 136	181, 502	215, 638	5, 287	220, 925	211	274	262	230	261
Sandstone	1, 613, 809	690, 229	2, 304, 038	156, 088	2, 460, 126	192, 819	81, 192	274, 011	19, 241	293, 252	196	203	198	238	200
Slate	401, 669	385, 391	787, 060	48, 611	835, 671	49, 702	45, 990	95, 692	6, 102	101, 794	278	257	267	277	268
Traprock	3, 232, 684	1, 806, 569	5, 039, 253	343, 622	5, 382, 875	372, 690	212, 290	584, 980	42, 126	627, 106	231	208	222	274	225
Miscellaneous stone	944, 713	175, 150	1, 119, 863	55, 123	1, 174, 986	116, 526	22, 320	138, 846	7, 236	146, 082	257	223	251	278	252
Total	61, 926, 349	96, 802, 476	158, 728, 825	9, 832, 220	168, 561, 045	7, 446, 527	11, 952, 042	19, 398, 569	1, 228, 357	20, 626, 926	239	299	273	268	272
All other and not stated:															
Granite	166, 212	1, 589, 104	1, 755, 316	45, 004	1, 800, 320	20, 710	190, 588	211, 298	5, 750	217, 048	201	264	256	250	256
Limestone	1, 905, 441	535, 767	2, 441, 208	74, 021	2, 515, 229	229, 947	65, 824	295, 771	9, 202	304, 973	174	243	185	271	187
Marble	509, 742	1, 321, 342	1, 831, 084	133, 040	1, 964, 124	57, 462	148, 374	205, 836	16, 910	222, 746	239	279	267	277	267
Sandstone	250, 140	158, 230	408, 370	1, 300	409, 670	31, 224	19, 752	50, 976	163	51, 139	215	253	229	82	227
Slate	38, 400	18, 000	56, 400	10, 000	66, 400	4, 800	2, 250	7, 050	1, 250	8, 300	300	321	307	250	296
Traprock	179, 250	101, 714	280, 964	9, 414	290, 378	21, 557	11, 950	33, 507	1, 153	34, 660	131	164	141	231	143
Miscellaneous stone	4, 320	5, 360	9, 680	----------	9, 680	540	670	1, 210	----------	1, 210	180	223	202	----	202
Total	3, 053, 505	3, 729, 517	6, 783, 022	272, 779	7, 055, 801	366, 240	439, 408	805, 648	34, 428	840, 076	183	261	219	265	220
Grand total	73, 135, 571	110, 258, 150	183, 393, 721	11, 085, 616	194, 479, 337	8, 817, 270	13, 592, 503	22, 409, 773	1, 385, 791	23, 795, 564	235	292	266	267	266

[1] Includes limestone or other stone used in manufacturing cement.

The combined injury-frequency rate at quarries producing dimension-stone improved in 1957. A rate of 50.05 was shown in 1957, and a rate of 52.70 for 1956. Of the 888 nonfatal injuries reported, 63 percent occurred in the open and underground quarries, and the remainder in the processing plants. The main causes of nonfatal injuries were handling materials, machinery, falls of persons, and falling objects.

The men employed in the dimension-stone quarrying industry rose to 9,311 in 1957 from 8,404 the preceding year (11 percent), and man-hours of employment showed a gain of 8 percent with fewer days worked per man.

TABLE 27.—*Injury and employment data on work inside dimension-stone and nondimension-stone quarries in the United States, by employment groups, 1957*

Size of groups	Active operations	Men at work	Man-days worked	Man-hours worked	Injuries		Frequency rates per million man-hours	
					Fatal	Non-fatal	Fatal	Nonfatal
Dimension stone:								
1 to 4	184	408	76, 112	614, 921	------	53	------	86. 19
5 to 9	103	646	137, 880	1, 126, 448	2	97	1. 78	86. 11
10 to 24	66	974	224, 741	1, 811, 714	------	136	------	75. 07
25 to 49	31	1, 044	236, 857	1, 903, 160	------	124	------	65. 15
50 to 99	7	478	109, 487	928, 845	1	46	1. 08	49. 52
100 to 149	2	218	54, 856	438, 844	------	7	------	15. 95
Total	393	3, 768	839, 933	6, 823, 932	3	463	. 44	67. 85
Nondimension stone:								
1 to 4	619	1, 483	279, 193	2, 330, 694	6	151	2. 57	64. 79
5 to 9	665	3, 749	755, 058	6, 405, 821	3	369	. 47	57. 60
10 to 24	565	7, 937	1, 933, 652	15, 842, 875	4	537	. 25	33. 90
25 to 49	182	5, 398	1, 365, 438	11, 386, 529	4	318	. 35	27. 93
50 to 99	61	3, 547	864, 217	7, 193, 460	1	158	. 14	21. 96
100 to 149	12	1, 233	333, 393	2, 612, 366	2	12	. 77	4. 59
150 to 199	1	170	43, 252	346, 016	------	2	------	5. 78
200 to 299	3	765	189, 765	1, 663, 108	1	20	. 60	12. 03
300 to 399	1	387	79, 778	718, 000	------	28	------	39. 00
Total	2, 109	24, 669	5, 843, 746	48, 498, 869	21	1, 595	. 43	32. 89
All other and not stated:								
1 to 4	110	305	52, 604	438, 794	1	8	2. 28	18. 23
5 to 9	99	691	110, 512	925, 004	------	65	------	70. 27
10 to 24	28	378	65, 993	542, 148	------	29	------	53. 49
25 to 49	8	274	57, 061	478, 517	------	82	------	171. 36
50 to 99	2	115	29, 672	252, 126	------	7	------	27. 76
Total	247	1, 763	315, 842	2, 636, 589	1	191	. 38	72. 44

TABLE 28.—*Dimension-stone and nondimension-stone quarries in the United States: Injuries by kind of stone, cause, and degree of injury, 1957*

(No injuries occurred in stones not listed)

Kind of stone	Open quarry																
	In quarry															Surface	Total
	Falls or slides of rock or overburden	Handling materials	Hand-tools	Explosives	Haulage	Falls of persons	Falling objects (other than 1 and 2)	Flying objects	Electricity	Drilling and channeling (by machine and hand)	Machinery	Stepping on nail or sharp object	Boiler and air tank explosions	Burns	Other causes		
Dimension stone:																	
Fatal:																	
Granite	1															1	2
Limestone											1						1
Marble																	
Sandstone																	
Slate						1											1
Total	1					1					1					1	4
Permanent total: [1]																	
Permanent partial: [1]																	
Granite		1			1			1			1					1	5
Limestone											2						2
Marble						1		1		1						1	4
Sandstone										1	1						2
Slate		1														1	2
Total		2			1	1		2		2	4					3	15
Temporary: [1]																	
Granite	4	23	7	1	2	21	6	23	1	19	10	2		1	46	24	190
Limestone	4	10	18		3	6	2	5		9	11	1				6	75
Marble		12	1		1	11	4	1		5	9			2	10		56
Sandstone	4	51	5		1	10	2	9			4				4	4	94
Slate	3	16	5			13	1	4			1				5	63	111
Traprock						1					1						2
Miscellaneous stone		1															1
Total	15	113	36	1	7	62	15	42	1	33	36	3		3	65	97	529
Nondimension stone:																	
Fatal:																	
Cement [2]		1			1	1											3
Granite		1				1										1	3
Limestone	4	1			1	1					3					4	14
Limestone (chief product, lime)																	
Traprock		1			1						1				1		4
Total	4	4			3	3					4				1	5	24
Permanent total: [1]																	
Limestone					1			1						1	1		4
Limestone (chief product, lime)	1																1
Total	1				1			1						1	1		5

Permanent partial: [1]																	
Cement [2]		1			2			1		1						1	6
Granite		4			1	1								2		3	11
Limestone		2	1	3	5	2	2	1		1	11			1	3	7	39
Limestone (chief product, lime)	1			1		1											3
Marble																	
Sandstone																	
Traprock										1	2					1	4
Total	1	7	1	4	8	4	2	2		3	13			3	3	12	63
Temporary: [1]																	
Cement [2]	1		1		1	7		2		2	5				5	8	32
Granite	11	32	16		13	19	11	23	1	5	17	3		4	8	49	212
Limestone	37	99	40	30	116	105	27	64	11	56	160	18		21	95	263	1, 142
Limestone (chief product, lime)	10	13	3		14	12	5	11		12	14			7	5	61	167
Marble					1					3							4
Sandstone	3	7	3		4	6	3	2	1	7	13				9	15	73
Slate		5		2	1	1									1	4	14
Traprock	12	9	8	10	13	16	10	12	1	2	32	3		1	25	71	225
Miscellaneous stone		3	3		4	2	1			6				1	4	11	35
Total	74	168	74	42	167	168	57	114	14	93	241	24		34	152	482	1, 904
All other and not stated:																	
Fatal:																	
Granite						1											1
Total						1											1
Permanent partial: [1]																	
Granite								2									2
Limestone										1					1	1	3
Limestone (chief product, lime)																	
Marble										2							2
Sandstone																1	1
Traprock	1									1							2
Total	1							2		4					1	2	10
Temporary: [1]																	
Granite	1	12				11				1	2						27
Limestone	7	44	15	2	10	10	4	10		5	15			1	8	23	154
Marble		5			1	2		1		1							10
Sandstone	1	2				1	1									4	9
Slate		9															9
Traprock		1														1	2
Miscellaneous stone																	
Total	9	73	15	2	11	24	5	11		7	17			1	8	28	211
All quarries:																	
Fatal	5	4			3	5					5				1	6	29
Permanent total [1]	1				1			1						1	1		5
Permanent partial [1]	2	9	1	4	9	5	2	6		9	17			3	4	17	88
Temporary [1]	98	354	125	45	185	254	77	167	15	133	294	27		38	225	607	2, 644
Total, nonfatal	101	363	126	49	195	259	79	174	15	142	311	27		42	230	624	2, 737

See footnotes at end of table, p. 51.

Original from THE OHIO STATE UNIVERSITY

TABLE 28.—*Dimension-stone and nondimension-stone quarries in the United States: Injuries by kind of stone, cause, and degree of injury, 1957*—Continued

(No injuries occurred in stones not listed)

Kind of stone	Underground quarry																					Surface	Total
	Underground															Shaft and slope							
	Falls of rock from roof	Handling rock while loading at working face or chute	Hand tools	Explosives	Haulage	Falling down chute, winze, raise or stope	Run of rock from chute or pocket	Drilling	Electricity	Machinery (other than locomotive or drill)	Mine fires	Suffocation from natural gases	Stepping on nail	Handling materials (other than rock)	Other causes	Falling down shaft or slope	Objects falling down shaft or slope	Breaking of cables	Overwinding	Cage, skip, or bucket	Other causes		
Dimension stone:																							
Fatal:																							
Granite																							
Limestone																							
Marble																							
Sandstone																							
Slate																							
Total																							
Permanent total: [1]																							
Permanent partial: [1]																							
Granite																							
Limestone																							
Marble																							
Sandstone																							
Slate																							
Total																							
Temporary: [1]																							
Granite																							
Limestone							1	2						1	1								5
Marble				1	3	2		4		1				1									12
Sandstone																							
Slate		1				1																	2
Traprock																							
Miscellaneous stone																							
Total		1		1	3	3	1	6		1				2	1								19
Nondimension stone:																							
Fatal:																							
Cement [2]																							
Granite																							
Limestone	1				1																		2
Limestone (chief product, lime)																							
Traprock																							
Total	1				1																		2
Permanent total: [1]																							
Limestone																							
Limestone (chief product, lime)																							
Total																							

Original from THE OHIO STATE UNIVERSITY

Permanent partial: [1]																						
Cement [3]																						
Granite																						
Limestone	1					1				1												3
Limestone (chief product, lime)																						
Marble																						
Sandstone																						
Traprock																						
Total	1					1				1												3
Temporary: [1]																						
Cement [3]	1	1	1							1					1								5
Granite																						
Limestone	11	9	3		2	3		16		4			2	8	19		1				3	30	111
Limestone (chief product, lime)	2	6	3	2		1	1	3	1					2	2	3	1					2	29
Marble															1								1
Sandstone																						
Slate																						
Traprock																						
Miscellaneous stone																						
Total	14	16	7	2	2	4	1	19	1	5			2	10	23	3	2				3	32	146
All other and not stated:																						
Fatal:																						
Granite																						
Total																						
Permanent partial: [1]																						
Granite																						
Limestone																						
Limestone (chief product, lime)																						
Marble																						
Sandstone																						
Traprock																						
Total																						
Temporary: [1]																						
Granite																						
Limestone																						
Marble																						
Sandstone																						
Slate																						
Traprock																						
Miscellaneous stone																						
Total																						
All quarries:																						
Fatal	1				1																	2
Permanent total [1]																						
Permanent partial [1]	1					1				1												3
Temporary [1]	14	17	7	3	5	7	2	25	1	6			2	12	24	3	2				3	32	165
Total nonfatal	15	17	7	3	5	8	2	25	1	7			2	12	24	3	2				3	32	168

See footnotes at end of table, p. 51.

TABLE 28.—*Dimension-stone and nondimension-stone quarries in the United States: Injuries by kind of stone, cause, and degree of injury, 1957*—Continued

(No injuries occurred in stones not listed)

Kind of stone	Processing works													Office-workers	Grand total
	Crusher and mill														
	Haulage	Machinery	Hand-tools	Stepping on nail or sharp object	Electricity	Falls of persons	Falling objects	Flying objects	Handling materials	Burns	Other causes	Auxiliary works	Total		
Dimension stone:															
Fatal:															
Granite		1											1		3
Limestone															1
Marble												1	1		1
Sandstone												1	1		1
Slate															1
Total		1										2	3		7
Permanent total [1]															
Permanent partial: [1]															
Granite											1	2	3		8
Limestone	1	2				1			1			1	6		8
Marble												1	1		5
Sandstone		1							1			1	3		5
Slate												1	1		3
Total	1	3				1			2		1	6	14		29
Temporary: [1]															
Granite	1	7	8	2	1	5	21	31	18	3	14	9	120	3	313
Limestone	2	7	12			7	6	3	13	1	5	29	85		165
Marble			1			2	2	1	9		8	13	36		104
Sandstone		6			1	5	1		14	1		20	48		142
Slate	1	2							5		2	9	19	1	133
Traprock															2
Miscellaneous stone												3	3		4
Total	4	22	21	2	2	19	30	35	59	5	29	83	311	4	863
Nondimension stone:															
Fatal:															
Cement [2]	1	2					1				2	5	11		14
Granite		1											1		4
Limestone	2	1										1	4		20
Limestone (chief product, lime)		1											1		1
Traprock		1							1				2		6
Total	3	6					1		1		2	6	19		45
Permanent total: [1]															
Limestone															4
Limestone (chief product, lime)															1
Total															5

Permanent partial:[1]															
Cement[2]	1	8				2			1		1	5	18		24
Granite															11
Limestone	1	2				1					1	5	10		52
Limestone (chief product, lime)	1	2					1					1	5		8
Marble									1				1		1
Sandstone								1					1		1
Traprock														1	5
Total	3	12				3	1	1	2		2	11	35	1	102
Temporary:[1]															
Cement[2]	4	16	5	4	4	37	17	7	12	19	28	63	216		253
Granite		12				1		2	3			3	21		233
Limestone	25	69	10	5	3	24	20	26	33	6	28	36	285	7	1,544
Limestone (chief product, lime)	13	22	8	4	3	18	6	10	33	9	22	94	242	2	440
Marble	1	5	1			4	9		5		8		33		38
Sandstone	4	10					1	3	2		6		26		99
Slate		2			1	2			5			1	11		25
Traprock	2	6	1		1	2	1	4	8	1	4	9	39		264
Miscellaneous stone							1						1		33
Total	49	142	25	13	12	88	55	52	101	35	96	206	874	9	2,929
All other and not stated:															
Fatal:															
Granite															1
Total															1
Permanent partial:[1]															
Granite									1				1		3
Limestone							2					1	3		6
Limestone (chief product, lime)															
Marble															2
Sandstone															1
Traprock															2
Total							2		1			1	4		14
Temporary:[1]															
Granite															27
Limestone		8	2	1	1	2		3	7		3	6	33		188
Marble		2	1	1		1	4		13		6		28		38
Sandstone								1				1	2		11
Slate															9
Traprock							3						3		5
Miscellaneous stone							1						1		4
Total		10	3	2	1	3	8	4	20		9	7	67		282
All quarries:															
Fatal	3	7					1		1		2	8	22		53
Permanent total[1]															5
Permanent partial[1]	4	15				4	3	1	5		3	18	53	1	145
Temporary[1]	53	174	49	17	15	110	93	91	180	40	134	296	1,252	13	4,074
Total nonfatal	57	189	49	17	15	114	96	92	185	40	137	314	1,305	14	4,224

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[1] See definitions in footnotes of table 3, p. 8.
[2] Includes limestone or other stone used in manufacturing cement.

TABLE 29.—*Dimension-stone and nondimension-stone quarries in the United States: Injuries, injury rates per million man-hours, and employment data, by States, 1957*

State	Dimension stone							Nondimension stone							All other and not stated						
	Men at work	Man-days worked	Man-hours worked	Injuries		Injury rates per million man-hours		Men at work	Man-days worked	Man-hours worked	Injuries		Injury rates per million man-hours		Men at work	Man-days worked	Man-hours worked	Injuries		Injury rate per million man-hours	
				Fatal	Non-fatal	Fatal	Non-fatal				Fatal	Non-fatal	Fatal	Non-fatal				Fatal	Non-fatal	Fatal	Non-fatal
Alabama	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2,208	641,703	5,184,889	2	78	0.39	15.04	383	97,661	817,034	------	36	------	44.06
Alaska	------	------	------	------	------	------	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Arizona	(1)	(1)	(1)	(1)	(1)	(1)	(1)	211	67,788	542,102	------	8	------	14.76	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Arkansas	66	10,290	81,997	------	3	------	36.59	346	79,784	641,204	------	11	------	17.16	------	------	------	------	------	------	------
California	67	13,765	111,111	------	1	------	9.00	5,330	1,484,073	12,249,710	4	234	.33	19.10	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Colorado	79	18,358	144,292	------	30	------	207.91	544	163,354	1,306,829	------	26	------	19.90	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Connecticut	(1)	(1)	(1)	(1)	(1)	(1)	(1)	417	115,093	1,087,055	------	58	------	53.36	------	------	------	------	------	------	------
Delaware	------	------	------	------	------	------	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)	------	------	------	------	------	------	------
Florida	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1,921	526,886	4,602,153	2	114	.43	24.77	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Georgia	1,111	276,392	2,226,748	1	83	0.45	37.27	1,564	410,776	3,421,136	1	95	.29	27.77	------	------	------	------	------	------	------
Idaho	------	------	------	------	------	------	------	194	26,698	224,725	------	6	------	26.70	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Illinois	------	------	------	------	------	------	------	3,260	863,520	7,182,949	------	122	------	16.98	205	48,682	410,565	------	12	------	29.23
Indiana	2,106	505,449	4,062,158	1	118	.25	29.05	2,383	735,129	5,942,688	2	98	.34	16.49	176	42,825	342,600	------	11	------	32.11
Iowa	------	------	------	------	------	------	------	2,347	608,433	5,196,152	1	109	.19	20.98	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Kansas	133	18,124	144,992	------	3	------	20.69	1,690	408,026	3,333,053	3	30	.90	9.00	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Kentucky	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1,869	437,397	3,622,968	1	156	.28	43.06	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Louisiana	------	------	------	------	------	------	------	368	131,863	1,054,894	------	3	------	2.84	------	------	------	------	------	------	------
Maine	232	47,221	388,670	1	31	2.57	79.76	237	72,145	585,131	------	15	------	25.64	------	------	------	------	------	------	------
Maryland	(1)	(1)	(1)	(1)	(1)	(1)	(1)	796	193,743	1,606,837	------	25	------	15.56	------	------	------	------	------	------	------
Massachusetts	461	114,038	912,296	------	26	------	28.50	471	114,537	960,864	1	50	1.04	52.04	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Michigan	(1)	(1)	(1)	(1)	(1)	(1)	(1)	3,852	1,093,659	8,775,794	2	62	.23	7.06	------	------	------	------	------	------	------
Minnesota	515	134,869	1,104,313	------	79	------	71.54	648	149,071	1,263,033	1	42	.79	33.25	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Mississippi	------	------	------	------	------	------	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)	------	------	------	------	------	------	------
Missouri	133	29,126	236,334	1	27	4.23	114.25	3,883	969,787	7,846,478	2	107	.25	13.64	712	136,863	1,204,910	------	51	------	42.33
Montana	------	------	------	------	------	------	------	169	54,746	450,249	------	3	------	6.66	64	7,097	59,762	------	3	------	50.20
Nebraska	(1)	(1)	(1)	(1)	(1)	(1)	(1)	530	151,510	1,245,096	------	22	------	17.67	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Nevada	(1)	(1)	(1)	(1)	(1)	(1)	(1)	115	32,786	262,291	------	19	------	72.44	------	------	------	------	------	------	------
New Hampshire	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
New Jersey	------	------	------	------	------	------	------	508	125,028	1,079,948	1	83	.93	76.86	------	------	------	------	------	------	------
New Mexico	(1)	(1)	(1)	(1)	(1)	(1)	(1)	54	8,764	70,112	------	7	------	99.84	(1)	(1)	(1)	(1)	(1)	(1)	(1)
New York	260	60,230	488,319	1	23	2.05	47.10	3,733	1,004,515	8,221,072	------	96	------	11.68	(1)	(1)	(1)	(1)	(1)	(1)	(1)
North Carolina	130	30,187	241,496	------	4	------	16.56	1,686	349,356	2,869,708	------	67	------	23.35	281	70,556	564,448	------	37	------	65.55
Ohio	517	107,567	847,747	------	38	------	44.82	5,582	1,638,140	13,194,496	3	167	.23	12.66	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oklahoma	78	18,128	145,556	------	15	------	103.05	829	247,018	2,045,531	------	42	------	20.53	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oregon	(1)	(1)	(1)	(1)	(1)	(1)	(1)	591	140,514	1,127,410	------	63	------	55.88	99	7,763	64,075	------	------	------	------
Pennsylvania	645	154,174	1,301,886	1	113	.77	86.80	9,820	2,780,371	22,265,188	7	303	.31	13.61	57	14,453	120,622	------	3	------	24.87
Rhode Island	------	------	------	------	------	------	------	(1)	(1)	(1)	(1)	(1)	(1)	(1)	------	------	------	------	------	------	------
South Carolina	(1)	(1)	(1)	(1)	(1)	(1)	(1)	551	147,996	1,194,762	------	38	------	31.81	------	------	------	------	------	------	------
South Dakota	126	32,699	261,345	1	21	3.83	80.35	297	90,683	741,719	------	30	------	40.45	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Tennessee	732	174,322	1,424,077	------	68	------	47.75	2,245	571,759	4,696,950	3	105	.64	22.35	258	60,966	526,364	------	10	------	19.00
Texas	145	36,609	295,813	------	11	------	37.19	2,666	885,395	7,256,329	------	131	------	18.05	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Utah	(1)	(1)	(1)	(1)	(1)	(1)	(1)	413	131,323	1,050,595	1	6	.95	5.71	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Vermont	908	215,520	1,773,035	------	76	------	42.86	684	192,892	1,540,876	------	52	------	33.75	------	------	------	------	------	------	------
Virginia	211	51,960	432,955	------	14	------	32.34	2,491	677,798	5,568,452	2	157	.36	28.19	------	------	------	------	------	------	------
Washington	(1)	(1)	(1)	(1)	(1)	(1)	(1)	753	165,950	1,344,150	1	28	.74	20.83	149	32,388	267,903	------	8	------	29.86
West Virginia	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1,229	343,646	2,804,242	4	42	1.43	14.98	------	------	------	------	------	------	------
Wisconsin	259	62,549	502,916	------	48	------	95.44	1,218	252,875	2,151,131	------	107	------	49.74	568	99,014	834,484	------	98	------	117.44
Wyoming	(1)	(1)	(1)	(1)	(1)	(1)	(1)	195	61,139	490,177	------	4	------	8.16	------	------	------	------	------	------	------
Other States	408	93,979	753,818	------	56	------	74.29	235	50,900	427,697	------	9	------	14.03	730	187,380	1,570,255	2	23	1.27	14.65
Total	9,311	2,205,556	17,881,874	7	888	.39	49.66	71,133	19,398,569	158,728,825	44	3,030	.28	19.09	3,682	805,648	6,783,022	2	292	.29	43.05

[1] Included in Other States.

UNDERGROUND QUARRIES

The quarrying industry is predominantly an above-surface operation; therefore, of the 2,903 operations reported, only 134 were underground quarries. Cement rock and limestone were produced at 115 of these, and the remaining 19 mines produced marble, sandstone, granite, traprock, and slate. The largest number of employees underground was reported for Pennsylvania, where 11 quarries employed an average of 925 men during 1957.

Two fatal injuries each were reported for 1957 and 1956; however, the combined injury-frequency rate decreased. A rate of 23.40 in 1957 was a decrease of 24 percent from the 30.72 noted in 1956. The causes of most injuries in underground quarries were drilling, handling rock, falling rock, and handling material.

TABLE 30.—*Injury and employment data at underground stone quarries in the United States, by kind of stone, work location, and State, 1957*

EXCLUDING OFFICEWORKERS

Kind of stone	Active operations	Injuries			Men at work	Man-days worked	Man-hours worked	Average days active	Average hours per man per year
		Fatal	Nonfatal	Rate per million man-hours					
Cement[1] and limestone:[2]									
Underground and shaft	115	2	121	22. 02	2, 754	691, 443	5, 584, 823	251	2, 028
Surface	------	------	32	25. 02	617	156, 142	1, 279, 053	253	2, 073
Total	115	2	153	22. 58	3, 371	847, 585	6, 863, 876	251	2, 036
Marble, sandstone, granite, and traprock:									
Underground and shaft	13	------	13	51. 97	118	30, 477	250, 124	258	2, 120
Surface	------	------	------	--------	19	5, 503	44, 280	290	2, 331
Total	13	------	13	44. 16	137	35, 980	294, 404	263	2, 149
Slate:									
Underground and shaft	6	------	2	25. 38	41	9, 849	78, 796	240	1, 922
Surface	------	------	------	--------	14	3, 626	29, 008	259	2, 072
Total	6	------	2	18. 55	55	13, 475	107, 804	245	1, 960
Grand total	134	2	168	23. 40	3, 563	897, 040	7, 266, 084	252	2, 039
BY STATES									
California	6	------	36	100. 35	155	44, 843	358, 749	289	2, 315
Georgia	8	------	8	40. 69	88	24, 217	196, 596	275	2, 234
Illinois	12	------	6	11. 54	258	64, 374	519, 939	250	2, 015
Kansas	5	------	------	--------	111	28, 536	235, 846	257	2, 125
Kentucky	22	1	27	31. 86	444	103, 710	878, 740	234	1, 979
Missouri	30	------	21	19. 03	570	138, 283	1, 103, 399	243	1, 936
Ohio	4	------	2	2. 53	333	98, 757	790, 137	297	2, 373
Pennsylvania	11	------	5	2. 85	925	221, 665	1, 756, 389	240	1, 899
Tennessee	8	------	9	44. 16	90	24, 453	203, 785	272	2, 264
Virginia	3	------	------	--------	151	38, 538	334, 712	255	2, 217
West Virginia	6	------	13	37. 63	179	42, 783	345, 497	239	1, 930
Other States[3]	19	1	41	77. 45	259	66, 881	542, 295	258	2, 094
Total	134	2	168	23. 40	3, 563	897, 040	7, 266, 084	252	2, 039

See footnotes at end of table, p. 54.

TABLE 30.—*Injury and employment data at underground stone quarries in the United States, by kind of stone, work location, and State, 1957*—Continued

INCLUDING OFFICEWORKERS—Continued

	Active operations	Injuries		Rate per million man-hours	Men at work	Man-days worked	Man-hours worked	Average days active	Average hours per man per year
		Fatal	Nonfatal						
Cement [1] and limestone: [2]									
Underground and shaft	115	2	121	22. 02	2, 754	691, 443	5, 584, 823	251	2, 028
Surface	------	------	35	17. 24	962	249, 565	2, 030, 391	259	2, 111
Total	115	2	156	20. 75	3, 716	941, 008	7, 615, 214	253	2, 049
Marble, sandstone, granite and traprock:									
Underground and shaft	13	------	13	51. 97	118	30, 477	250, 124	258	2, 120
Surface	------	------	------	--------	38	10, 802	86, 507	284	2, 277
Total	13	------	13	38. 62	156	41, 279	336, 631	265	2, 158
Slate:									
Underground and shaft	6	------	2	25. 38	41	9, 849	78, 796	240	1, 922
Surface	------	------	------	--------	21	5, 409	43, 272	258	2, 061
Total	6	------	2	16. 38	62	15, 258	122, 068	246	1, 969
Grand total	134	2	171	21. 43	3, 934	997, 545	8, 073, 913	254	2, 052

BY STATES

	Active operations	Fatal	Nonfatal	Rate per million man-hours	Men at work	Man-days worked	Man-hours worked	Average days active	Average hours per man per year
California	6	------	36	86. 27	183	52, 163	417, 309	285	2, 280
Georgia	8	------	8	33. 75	106	29, 275	237, 060	276	2, 236
Illinois	12	------	6	10. 48	284	71, 016	572, 275	250	2, 015
Kansas	5	------	------	--------	122	31, 663	261, 798	260	2, 146
Kentucky	22	1	27	29. 60	474	111, 794	945, 887	236	1, 996
Missouri	30	------	23	17. 71	658	162, 523	1, 298, 619	247	1, 974
Ohio	4	------	2	2. 34	365	106, 805	854, 349	293	2, 341
Pennsylvania	11	------	5	2. 69	973	234, 727	1, 860, 716	241	1, 912
Tennessee	8	------	9	39. 91	100	27, 116	225, 489	271	2, 255
Virginia	3	------	------	--------	166	43, 011	370, 495	259	2, 232
West Virginia	6	------	13	34. 47	193	46, 790	377, 123	242	1, 954
Other States [3]	19	1	42	65. 87	310	80, 662	652, 793	260	2, 106
Total	134	2	171	21. 43	3, 934	997, 545	8, 073, 913	254	2, 052

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[1] Includes limestone and other stone used in manufacturing cement.

[2] Includes quarries that produce limestone used chiefly for making lime.

[3] Includes Alabama, Arkansas, Colorado, Indiana, Iowa, Maine, New York, Oklahoma, Oregon, Vermont, Washington, and Wyoming.

HISTORICAL INJURY EXPERIENCE IN THE QUARRYING INDUSTRY

Statistical data on injuries and employment at stone quarries and their related plants were first made available in 1911, when the Bureau of Mines collected annual reports from operating companies on a voluntary basis.

Reports for the first 5 years are thought to be complete in coverage of fatalities but do not, by comparison with company reports for later years, appear to show complete coverage for nonfatal injuries until 1916, when the companies indicated the actual number of injuries with reasonable accuracy.

The nonfatal injury-frequency rate varied considerably until 1937, after which a downward trend was noted until the alltime low was reached in 1956; 1957 showed a slightly less favorable frequency rate, as shown by table 31.

TABLE 31.—*Employment and injury data for quarrying and related industries of the United States, 1911–57*

Year	Men at work	Average days active	Man-days worked	Average length of shift	Man-hours worked[1]	Injuries		Frequency rate per million man-hours	
						Fatal	Nonfatal	Fatal	Nonfatal[2]
1911	110, 954	228	25, 325, 094	--------	237, 043, 000	188	5, 390	0. 79	22. 74
1912	113, 105	249	28, 151, 042	--------	263, 494, 000	213	6, 552	. 81	24. 87
1913	106, 278	246	26, 142, 237	--------	244, 691, 000	183	7, 739	. 75	31. 63
1914	87, 936	233	20, 456, 157	--------	191, 470, 000	180	7, 836	. 94	40. 93
1915	100, 740	246	24, 734, 224	--------	231, 512, 000	148	9, 671	. 64	41. 77
1916	90, 797	253	22, 937, 178	--------	214, 692, 000	173	13, 427	. 81	62. 54
1917	82, 290	261	21, 457, 357	--------	200, 841, 000	131	13, 242	. 65	65. 93
1918	68, 332	260	17, 785, 504	--------	166, 472, 000	125	8, 719	. 75	52. 38
1919	75, 505	253	19, 138, 308	--------	179, 135, 000	123	9, 199	. 69	51. 35
1920	86, 488	267	23, 126, 648	--------	216, 465, 000	178	11, 217	. 82	51. 82
1921	77, 185	233	17, 987, 547	--------	168, 363, 000	120	10, 465	. 71	62. 16
1922	79, 081	261	20, 658, 338	--------	193, 362, 000	132	11, 839	. 68	61. 23
1923	92, 455	276	25, 545, 859	--------	239, 109, 000	143	14, 990	. 60	62. 69
1924	94, 242	269	25, 327, 858	9. 36	236, 982, 774	138	14, 777	. 58	62. 35
1925	91, 872	273	25, 045, 955	9. 31	233, 222, 241	149	14, 165	. 64	60. 74
1926	91, 146	271	24, 708, 400	9. 33	230, 464, 089	154	13, 201	. 67	57. 28
1927	91, 517	271	24, 782, 561	9. 27	229, 805, 889	135	13, 459	. 59	58. 57
1928	89, 667	272	24, 397, 377	9. 22	224, 953, 034	119	10, 568	. 53	46. 98
1929	85, 561	268	22, 967, 579	9. 22	211, 765, 529	126	9, 810	. 59	46. 32
1930	80, 633	255	20, 559, 372	9. 07	186, 502, 184	105	7, 417	. 56	39. 77
1931	69, 200	224	15, 526, 503	8. 61	133, 750, 124	61	5, 427	. 46	40. 58
1932	56, 866	195	11, 114, 135	8. 43	93, 709, 860	32	3, 574	. 34	38. 14
1933	61, 927	183	11, 362, 151	7. 74	87, 888, 263	59	3, 637	. 67	41. 38
1934	64, 331	204	13, 108, 274	7. 27	95, 258, 880	60	3, 924	. 63	41. 19
1935	73, 005	200	14, 623, 303	7. 52	110, 033, 341	51	4, 152	. 46	37. 73
1936	80, 022	236	18, 874, 254	7. 79	147, 064, 448	91	5, 717	. 62	38. 87
1937	84, 094	241	20, 264, 125	7. 81	158, 298, 530	77	6, 348	. 49	40. 10
1938	77, 497	223	17, 255, 828	7. 75	133, 766, 111	82	5, 027	. 61	37. 58
1939	79, 449	236	18, 726, 080	7. 68	143, 846, 583	48	5, 204	. 33	36. 18
1940	79, 509	240	19, 121, 053	7. 70	147, 243, 591	72	5, 188	. 49	35. 23
1941	86, 123	260	22, 369, 886	7. 74	173, 165, 422	76	6, 870	. 44	39. 67
1942	84, 270	271	22, 807, 586	7. 93	180, 835, 533	112	6, 349	. 62	35. 11
1943	69, 877	274	19, 135, 528	8. 11	155, 280, 258	80	5, 199	. 52	33. 48
1944	58, 476	268	15, 690, 659	8. 24	129, 301, 925	73	4, 437	. 56	34. 32
1945	58, 180	264	15, 376, 227	8. 27	127, 168, 325	53	4, 121	. 42	32. 41
1946	70, 265	274	19, 261, 847	8. 23	158, 528, 175	55	5, 137	. 35	32. 40
1947	75, 245	279	20, 996, 415	8. 19	171, 978, 817	75	5, 504	. 44	32. 00
1948	77, 344	284	21, 993, 317	8. 14	179, 110, 509	75	4, 994	. 42	27. 88
1949	82, 209	275	22, 569, 321	8. 08	182, 258, 333	66	4, 826	. 36	26. 48
1950	85, 730	272	23, 346, 483	8. 12	189, 534, 811	54	4, 762	. 28	25. 12
1951	84, 802	277	23, 469, 692	8. 14	191, 113, 194	57	4, 945	. 30	25. 87
1952	81, 879	279	22, 843, 676	8. 17	186, 551, 830	74	4, 503	. 40	24. 14
1953	83, 641	278	23, 248, 371	8. 16	189, 776, 589	43	4, 450	. 23	23. 45
1954	78, 910	273	21, 505, 759	8. 18	175, 817, 150	34	3, 834	. 19	21. 81
1955	78, 238	274	21, 470, 380	8. 19	175, 775, 452	53	3, 811	. 30	21. 68
1956	80, 093	272	21, 776, 491	8. 19	178, 280, 989	50	3, 754	. 28	21. 06
1957	84, 126	266	22, 409, 773	8. 18	183, 393, 721	53	4, 210	. 29	22. 96

[1] Man-hours for 1911–23 computed on assumption that weighted average length of workday was 9.36 hours, as shown by reports from representative operating companies for 1924.

[2] Injury rates before 1916 are believed not to be representative, owing to probable incompleteness of reports of slight or minor injuries.

U.S. GOVERNMENT PRINTING OFFICE: 1960